Access DB# 96686

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's full Name: Everett White Examiner #: 67057 Date: 06/16/2003
Art Unit: 1623 Phone Number 308-4621 Serial Number: 10/007,866
Mail Box: CM1-8B19 and Bldg/Room Location: CM1-8D12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be search include the elected species or structures, key words, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: See Bib Data Sheet

Inventors (please provide full names): See Bib Data Sheet

Earliest priority Filing Date: See Bib Data Sheet

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search the biodegradable, oxidized cellulose ester of Claims 1-12, the composition of Claim 35, and the method of making an oxidized cellulose ester of claims 13-34. Also, please search formulas I and II of the Oxidized cellulose ester in Claim 4. Claims 1 and 13 are the independent claims. A copy of the claims and abstract is provided.

The Bib Data Sheet which discloses the inventor names, title of the invention, and the earliest priority filing date is also provided.

****

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: Point of Contact:	NA Sequence (#)	STN
Searcher Phone #: Alexandra Waclawiw	AA Sequence (#)	Dialog
Searcher Location: Technical Info. Specialist CM1 6A02 Tel: 308-4491	Structure (#)	Questel/Orbit
Date Searcher Picked Up: 6-23-03	Bibliographic ✓	Dr. Link
Date Completed: 6-23-03	Litigation	Lexis/Nexis
Searcher Prep & Review Time:	Fulltext	Sequence Systems
Clerical prep time:	Patent Family	WWW/Internet
Online Time:	Other	Other (specify)

PTO-1590 (1-2000)

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=>
=> d his

     (FILE 'HOME' ENTERED AT 09:57:20 ON 23 JUN 2003)

     FILE 'REGISTRY' ENTERED AT 09:57:38 ON 23 JUN 2003
                  E METHYLENE CHLORIDE/CN
L1                1 S E3
                  E DMSO/CN
L2                1 S E3
                  E DMA/CN
L3                3 S E3
                  E DMF/CN
L4                1 S E3
                  E N-METHYL-2-PYRROLIDONE/CN
L5                1 S E3
L6                1 S DIOXANE/CN
L7                8 S L1-L6
                  SAVE L7 TEMP SOLV/A
                  E SULFURIC ACID/CN
L8                1 S E3
                  E O-PHOSPHORIC ACID/CN
                  E PHOSPHORIC ACID/CN
L9                1 S E3
                  E PERCHLORIC ACID/CN
L10               1 S E3
                  E ZINC CHLORIDE/CN
L11               1 S E3
L12               4 S L8-L11
                  SAVE L12 TEMP ACIDCAT/A
                  E CELLULOSE
                  E CELLULOSE/CN
L13               1 S E3

     FILE 'HCAPLUS' ENTERED AT 10:01:10 ON 23 JUN 2003
L14           67745 S  L13
L15          191781 S L14  OR CELLULOSE
L16           13592 S L15 (L) (REACTION? OR RCT/RL OR RACT/RL)
L17          105568 S ACYL?
L18              84 S L17 (L) L16
L19               1 S L18 (L) OXID?
L20             667 S L16 (L) (OXIDN OR OXIDIZ? OR OXIDATI?)
L21               3 S L20 AND (ACYLA? OR ACYLA?/AB)
L22              92 S L15 (L) (OXIDN OR OXIDIZ? OR OXIDATI?) (L) ESTER#
L23               1 S L22 AND (ACYLA? OR ACYLA?/AB)
L24           23845 S L7  (L) SOL?
L25               1 S L24 AND L22
L26             109 S L24 AND L16
L27               6 S L26 AND (ACYLA? OR ACYLA?/AB)
L28          119950 S ACID (L) CATALY?
L29          255486 S L12 OR L28
L30             859 S L29 AND L16
L31             623 S L12 AND L30

     FILE 'STNGUIDE' ENTERED AT 10:08:22 ON 23 JUN 2003

     FILE 'STNGUIDE' ENTERED AT 10:18:59 ON 23 JUN 2003
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FILE 'STNGUIDE' ENTERED AT 10:21:36 ON 23 JUN 2003

FILE 'STNGUIDE' ENTERED AT 10:26:39 ON 23 JUN 2003

FILE 'HCAPLUS' ENTERED AT 10:26:44 ON 23 JUN 2003

L32	6	S	L17 AND L31
L33	5	S	L31 AND ACYL?/AB
L34	15	S	L19 OR L21 OR L23 OR L25 OR L27 OR L32 OR L33
L35	3	S	L20 (L) BIODEGR?
L36	18153	S	CARBOXY? (L) (GROUP? OR GP##)
L37	175	S	L36 AND L16
L38	38	S	L37 AND L20
L39	2	S	L38 AND L12
L40	19	S	L34 OR L35 OR L39

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=> fil reg
FILE 'REGISTRY' ENTERED AT 10:35:54 ON 23 JUN 2003
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES:   22 JUN 2003  HIGHEST RN 535920-83-3
DICTIONARY FILE UPDATES:  22 JUN 2003  HIGHEST RN 535920-83-3

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d que l7;d  l7 rn cn 1-8
L1             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "METHYLENE CHLORIDE"/CN
L2             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  DMSO/CN
L3             3 SEA FILE=REGISTRY ABB=ON  PLU=ON  DMA/CN
L4             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  DMF/CN
L5             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  N-METHYL-2-PYRROLIDONE/CN
L6             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  DIOXANE/CN
L7             8 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5
                 OR L6)



L7   ANSWER 1 OF 8  REGISTRY  COPYRIGHT 2003 ACS
RN   2801-68-5  REGISTRY
CN   Benzeneethanamine, 2,5-dimethoxy-.alpha.-methyl- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Phenethylamine, 2,5-dimethoxy-.alpha.-methyl- (6CI, 7CI, 8CI)
OTHER NAMES:
CN   (.+-.)-1-(2,5-Dimethoxyphenyl)-2-aminopropane
CN   (.+-.)-2,5-Dimethoxyamphetamine
CN   1-(2,5-Dimethoxyphenyl)-2-aminopropane
CN   1-(2,5-Dimethoxyphenyl)isopropylamine
CN   2,5-Dimethoxyamphetamine
CN   2-(2-Aminopropyl)hydroquinone dimethyl ether
CN   DMA

L7   ANSWER 2 OF 8  REGISTRY  COPYRIGHT 2003 ACS
RN   872-50-4  REGISTRY
CN   2-Pyrrolidinone, 1-methyl- (7CI, 8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   1-Methyl-2-pyrrolidinone
CN   1-Methyl-2-pyrrolidone
```

CN 1-Methyl-5-pyrrolidinone
CN 1-Methylazacyclopentan-2-one
CN 1-Methylpyrrolidone
CN AgsolEx 1
CN M-Pyrol
CN Microposit 2001
CN N 0131
CN N-Methyl-.alpha.-pyrrolidinone
CN N-Methyl-.alpha.-pyrrolidone
CN N-Methyl-.gamma.-butyrolactam
CN N-Methyl-2-ketopyrrolidine
CN N-Methyl-2-pyrrolidinone
CN **N-Methyl-2-pyrrolidone**
CN N-Methylbutyrolactam
CN N-Methylpyrrolidone
CN NMP
CN Pharmasolve
CN Pyrol M
CN SL 1332

L7 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 144-21-8 REGISTRY
CN Arsonic acid, methyl-, disodium salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Methanearsonic acid, disodium salt (8CI)
OTHER NAMES:
CN Ansar 184
CN Ansar 8100
CN Arrhenal
CN Arsinyl
CN Arsynal
CN Cacodyl New
CN Cralo-E-rad
CN Diarsen
CN Disodium methanearsonate
CN Disodium methylarsenate(2-)
CN Disodium methylarsonate
CN Disomear
CN **DMA**
CN DMA 100
CN DSMA
CN Methar
CN Metharsan
CN Metharsinat
CN Neo-Asycodile
CN Sodar
CN Somar
CN Stenosine
CN Tonarsan
CN Tonarsin

L7 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 127-19-5 REGISTRY
CN Acetamide, N,N-dimethyl- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Acetdimethylamide
CN Dimethylacetamide
CN Dimethylamide acetate

CN **DMA**
CN DMAA
CN DMAc
CN N,N-Dimethylacetamide
CN N,N-Dimethylethanamide

L7 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 123-91-1 REGISTRY
CN 1,4-Dioxane (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN p-Dioxane (8CI)
OTHER NAMES:
CN 1,4-Diethylene dioxide
CN 1,4-Dioxacyclohexane
CN 1,4-Dioxan
CN 1,4-Dioxin, tetrahydro-
CN Diethylene dioxide
CN Diethylene ether
CN Diethylene oxide
CN Dioxan
CN **Dioxane**
CN Dioxyethylene ether
CN NE 220
CN p-Dioxan

L7 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 75-09-2 REGISTRY
CN Methane, dichloro- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Aerothene MM
CN Dichloromethane
CN F 30
CN F 30 (chlorocarbon)
CN Freon 30
CN HCC 30
CN Khladon 30
CN Metaclen
CN Methane dichloride
CN **Methylene chloride**
CN Methylene dichloride
CN Narkotil
CN R 30
CN R 30 (refrigerant)
CN Solaesthin
CN Soleana VDA
CN Solmethine

L7 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 68-12-2 REGISTRY
CN Formamide, N,N-dimethyl- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Dimethylformamide
CN **DMF**
CN DMF (amide)
CN DMFA
CN N,N-Dimethylformaldehyde
CN N,N-Dimethylformamide
CN N,N-Dimethylmethanamide

CN N-Formyldimethylamine
CN Virodene-P 058

L7 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 67-68-5 REGISTRY
CN Methane, sulfinylbis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Methyl sulfoxide (8CI)
OTHER NAMES:
CN Demavet
CN Demeso
CN Demsodrox
CN Dimethyl sulfoxide
CN Dimethyl sulphoxide
CN Dimexide
CN Dimexidum
CN Dipirartril-tropico
CN DMS 70
CN DMS 90
CN **DMSO**
CN Dolicur
CN Domoso
CN Dromisol
CN Durasorb
CN Gamasol 90
CN Herpid
CN Hyadur
CN Infiltrina
CN Kemsol
CN Rimso 50
CN Sclerosol
CN Somipront
CN SQ 9453
CN Sulfinylbismethane
CN Syntexan

=> d que l12;d l12 rn cn 1-4
L8 1 SEA FILE=REGISTRY ABB=ON PLU=ON "SULFURIC ACID"/CN
L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON "PHOSPHORIC ACID"/CN
L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON "PERCHLORIC ACID"/CN
L11 1 SEA FILE=REGISTRY ABB=ON PLU=ON "ZINC CHLORIDE"/CN
L12 4 SEA FILE=REGISTRY ABB=ON PLU=ON (L8 OR L9 OR L10 OR L11)

L12 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 7664-93-9 REGISTRY
CN **Sulfuric acid (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN BOV
CN Brimstone acid
CN Contact acid
CN Dihydrogen sulfate
CN Dipping acid
CN Oil of vitriol
CN Sulphuric acid

CN Vitriol brown oil

L12 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 7664-38-2 REGISTRY
CN **Phosphoric acid (7CI, 8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN 3M Etching Liquid
CN Amberphos 54
CN C 134
CN C 134 (acid)
CN C 434
CN C 434 (acid)
CN Conditioner 36
CN Decon 4512
CN E 338
CN EVITs
CN HQ 54
CN K-etchant
CN Kefo
CN Mikro Klene DF
CN Orthophosphoric acid
CN Panavia Etching Agent
CN Sonac
CN SPA 2
CN SPA 2 (catalyst)
CN TG 434
CN Total Etch
CN Ultra-Etch Gel
CN Ultraetch
CN Uni-Etch
CN WC-Reiniger

L12 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 7646-85-7 REGISTRY
CN Zinc chloride (ZnCl2) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Zinc chloride (6CI, 7CI, 8CI)**
OTHER NAMES:
CN Butter of zinc
CN Knittex ZH
CN Zinc Butter
CN Zinc dichloride
CN Zinc(II) chloride

L12 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 7601-90-3 REGISTRY
CN **Perchloric acid (8CI, 9CI)** (CA INDEX NAME)

=> d que l13;d l13
L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON CELLULOSE/CN

L13 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 9004-34-6 REGISTRY
CN **Cellulose (8CI, 9CI)** (CA INDEX NAME)

OTHER NAMES:
CN .alpha.-Cellulose
CN .beta.-Amylose
CN 3mAQUACEL
CN 402-2B
CN Alicell LV
CN Alpha Cel PB 25
CN Alphafloc
CN Arbocel
CN Arbocel B 00
CN Arbocel B 600
CN Arbocel B 600/30
CN Arbocel B 800
CN Arbocel B 820C
CN Arbocel BC 1000
CN Arbocel BC 200
CN Arbocel BE 600
CN Arbocel BE 600/10
CN Arbocel BE 600/20
CN Arbocel BE 600/30
CN Arbocel BEM
CN Arbocel BFC 200
CN Arbocel BWW 40
CN Arbocel DC 1000
CN Arbocel FD 00
CN Arbocel FD 600/30
CN Arbocel FIC 200
CN Arbocel FT 40
CN Arbocel FT 600/30H
CN Arbocel G 350
CN Arbocel TF 30HG
CN Arbocel TP 40
CN Avicel
CN Avicel 101
CN Avicel 102
CN Avicel 2330
CN Avicel 2331
CN Avicel 955
CN Avicel CL 611
CN Avicel E 200
CN Avicel F 20
CN Avicel FD 100
CN Avicel FD 101
CN Avicel FD-F 20
CN Avicel M 06
CN Avicel M 15
CN Avicel M 25
CN Avicel NT 020
CN Avicel NT 050
CN Avicel PH 101
CN Avicel PH 102
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
DR 12656-52-9, 9012-19-5, 9037-50-7, 9076-30-6, 58968-67-5, 99331-82-5, 67016-75-5, 67016-76-6, 51395-76-7, 61991-21-7, 61991-22-8, 68073-05-2, 70225-79-5, 74623-16-8, 75398-83-3, 77907-70-1, 84503-75-3, 89468-66-6, 39394-43-9, 209533-95-9
MF Unspecified

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CI    PMS, COM, MAN
PCT   Manual registration, Polyother, Polyother only
LC    STN Files:   ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,
        CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST,
        CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB,
        IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC,
        PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL,
        VTB
          (*File contains numerically searchable property data)
      Other Sources:   DSL**, EINECS**, TSCA**
          (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
           67747 REFERENCES IN FILE CA (1957 TO DATE)
            7493 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
           67800 REFERENCES IN FILE CAPLUS (1957 TO DATE)


=> fil hcaplud
'HCAPLUD' IS NOT A VALID FILE NAME
SESSION CONTINUES IN FILE 'REGISTRY'

=> fil hcaplus
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FILE COVERS 1907 - 23 Jun 2003  VOL 138 ISS 26
FILE LAST UPDATED: 22 Jun 2003  (20030622/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> d his l14-

     (FILE 'REGISTRY' ENTERED AT 09:57:38 ON 23 JUN 2003)

     FILE 'HCAPLUS' ENTERED AT 10:01:10 ON 23 JUN 2003
L14        67745 S  L13
L15       191781 S L14  OR CELLULOSE
L16        13592 S L15 (L) (REACTION? OR RCT/RL OR RACT/RL)
L17       105568 S ACYL?
L18           84 S L17 (L) L16
L19            1 S L18 (L) OXID?
```

```
L20         667 S L16 (L) (OXIDN OR OXIDIZ? OR OXIDATI?)
L21           3 S L20 AND (ACYLA? OR ACYLA?/AB)
L22          92 S L15 (L) (OXIDN OR OXIDIZ? OR OXIDATI?) (L) ESTER#
L23           1 S L22 AND (ACYLA? OR ACYLA?/AB)
L24       23845 S L7  (L) SOL?
L25           1 S L24 AND L22
L26         109 S L24 AND L16
L27           6 S L26 AND (ACYLA? OR ACYLA?/AB)
L28      119950 S ACID (L) CATALY?
L29      255486 S L12 OR L28
L30         859 S L29 AND L16
L31         623 S L12 AND L30

     FILE 'STNGUIDE' ENTERED AT 10:08:22 ON 23 JUN 2003

     FILE 'STNGUIDE' ENTERED AT 10:18:59 ON 23 JUN 2003

     FILE 'STNGUIDE' ENTERED AT 10:21:36 ON 23 JUN 2003

     FILE 'STNGUIDE' ENTERED AT 10:26:39 ON 23 JUN 2003

     FILE 'HCAPLUS' ENTERED AT 10:26:44 ON 23 JUN 2003
L32           6 S  L17 AND L31
L33           5 S L31 AND ACYL?/AB
L34          15 S L19 OR L21 OR L23 OR L25 OR L27 OR L32 OR L33
L35           3 S L20 (L) BIODEGR?
L36       18153 S CARBOXY? (L) (GROUP? OR GP##)
L37         175 S L36 AND L16
L38          38 S L37 AND  L20
L39           2 S L38 AND L12
L40          19 S L34 OR L35 OR L39

     FILE 'REGISTRY' ENTERED AT 10:35:54 ON 23 JUN 2003

     FILE 'HCAPLUS' ENTERED AT 10:36:37 ON 23 JUN 2003

=> d que nos 140
L1            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "METHYLENE CHLORIDE"/CN
L2            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  DMSO/CN
L3            3 SEA FILE=REGISTRY ABB=ON  PLU=ON  DMA/CN
L4            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  DMF/CN
L5            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  N-METHYL-2-PYRROLIDONE/CN
L6            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  DIOXANE/CN
L7            8 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5
                  OR L6)
L8            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "SULFURIC ACID"/CN
L9            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "PHOSPHORIC ACID"/CN
L10           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "PERCHLORIC ACID"/CN
L11           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "ZINC CHLORIDE"/CN
L12           4 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L8 OR L9 OR L10 OR L11)
L13           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  CELLULOSE/CN
L14       67745 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13
L15      191781 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14 OR CELLULOSE/OBI
L16       13592 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L15 (L) (REACTION?/OBI OR
                  RCT/RL OR RACT/RL)
L17      105568 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ACYL?/OBI
L18          84 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 (L) L16
L19           1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18 (L) OXID?/OBI
```

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L20          667 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L16 (L) (OXIDN/OBI OR
                 OXIDIZ?/OBI OR OXIDATI?/OBI)
L21            3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L20 AND (ACYLA?/OBI OR
                 ACYLA?/AB)
L22           92 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L15 (L) (OXIDN/OBI OR
                 OXIDIZ?/OBI OR OXIDATI?/OBI) (L) ESTER#/OBI
L23            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 AND (ACYLA?/OBI OR
                 ACYLA?/AB)
L24        23845 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 (L) SOL?/OBI
L25            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND L22
L26          109 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND L16
L27            6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L26 AND (ACYLA?/OBI OR
                 ACYLA?/AB)
L28       119950 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ACID/OBI (L) CATALY?/OBI
L29       255486 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L12 OR L28
L30          859 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L29 AND L16
L31          623 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L12 AND L30
L32            6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 AND L31
L33            5 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L31 AND ACYL?/AB
L34           15 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 OR L21 OR L23 OR L25 OR
                 L27 OR L32 OR L33
L35            3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L20 (L) BIODEGR?/OBI
L36        18153 SEA FILE=HCAPLUS ABB=ON  PLU=ON  CARBOXY?/OBI (L) (GROUP?/OBI
                 OR GP##/OBI)
L37          175 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L36 AND L16
L38           38 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L37 AND  L20
L39            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L38 AND L12
L40           19 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L34 OR L35 OR L39


=> d .ca 140 1-19

L40  ANSWER 1 OF 19  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2002:965151  HCAPLUS
DOCUMENT NUMBER:          138:35040
TITLE:                    Biocompatible, biodegradable, water-absorbent material
                          prepared by polymer-polymer inter-coupling between a
                          natural water-soluble polymer and a synthetic polymer
INVENTOR(S):              Bucevschi, Mircea Dan; Colt, Monica
PATENT ASSIGNEE(S):       Israel
SOURCE:                   U.S. Pat. Appl. Publ., 15 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
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     US 2002193516      A1   20021219       US 2001-823612    20010330
PRIORITY APPLN. INFO.:                   US 2001-823612      20010330
AB   A bio-compatible, biodegradable macromol. water-absorbent polymeric
     material, which has a three-dimensional configuration with intermol.
     covalent bonds and contains free functional groups selected from OH, SH,
     NH2, and COOH, is formed by polymer-polymer inter-coupling interaction
     between a natural water-sol. polymer A or its derivs. having a mol. wt.
     between 20,000 and 500,000 Da, and a synthetic polymer B at a ratio of A:B
     of 15:85-85:15 in a liq.-liq. heterogeneous system in the absence of any
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crosslinking or coupling agent. The natural polymer A, which can undergo polymer-polymer intercoupling reactions, can be selected from: a non-ionic natural, partially denatured or chem. modified polymer that does not dissoc. in water; or an anionic natural, partially denatured or chem. modified polymer, that dissocs. in water to form anions; or a cationic natural, partially denatured or chem. modified polymer, that dissocs. in water to form cations; or an amphoteric natural, partially denatured or chem. modified polymer, that dissocs. in water to form both anions and cations; or mixts. thereof. Thus, 20 g gelatin in 980 g of water is prepd. with 50 g NH4OH (5%) added to give a pH of 8.5. A second 3862 g soln. contg. 80 g of poly(styrene-alt-maleic anhydride), 700 cm3 of Et acetate, 3330 g OL1, and 300 cm3 N,N'-dimethylformamide, 292 g OL2, is added to the reaction vessel. In dropping funnel are introduced 250 g of 5% NH4OH and an automated titroprocessor set to maintain the PH of the system at a const. value. The polymer-polymer intercoupling reaction in liq.-liq. heterogeneous system occurs in 150 min, and uses 180 g of 5% NH4OH soln. Such superabsorbent materials that are biocompatible and biodegradable are useful in different applications, such as for bodily hygiene, medical materials, agromaterials, drying agents, and others.

IC ICM C08H001-00
NCL 525054100
CC 6-3 (General Biochemistry)
Section cross-reference(s): 19, 35, 62, 63
IT 1398-61-4, Chitin 9000-01-5, Gum arabic 9000-07-1, Carrageenan 9000-11-7, Carboxymethylcellulose 9000-30-0, Guar gum 9000-40-2, Locust bean gum 9000-69-5, Pectin 9002-18-0, Agar **9004-34-6D , Cellulose, oxidized** 9004-54-0, Dextran, biological studies 9004-57-3, Ethylcellulose 9004-58-4, Ethylhydroxyethylcellulose 9004-61-9, Hyaluronic acid 9004-62-0, Hydroxyethylcellulose 9004-64-2, Hydroxypropylcellulose 9004-67-5, Methylcellulose 9005-25-8, Starch, biological studies 9005-27-0, Hydroxyethylstarch 9005-32-7, Alginic acid 9005-49-6, Heparin, biological studies 9005-82-7, Amylose 9007-28-7, Chondroitin sulfate 9012-76-4, Chitosan 9014-63-5, Xylan 9032-42-2, Hydroxyethylmethylcellulose 9041-56-9, Hydroxybutylmethylcellulose 9049-76-7, Hydroxypropylstarch 9057-02-7, Pullulan 9057-06-1, Carboxymethylstarch 11078-30-1, Galactomannan 11138-66-2, Xanthan 69992-87-6, Keratan 71010-52-1, Gellan gum 75634-40-1, Dermatan 152324-79-3, Heparosan
RL: BUU (Biological use, unclassified); **RCT (Reactant)**; BIOL (Biological study); **RACT (Reactant or reagent)**; USES (Uses)
(biocompatible, **biodegradable**, water-absorbent material prepd. by polymer-polymer inter-coupling between a natural water-sol. polymer and a synthetic polymer)

L40 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:522297 HCAPLUS
DOCUMENT NUMBER: 138:256747
TITLE: Oxidized cellulose esters: I. Preparation and characterization of oxidized cellulose acetates - a new class of biodegradable polymers
AUTHOR(S): Kumar, V.; Yang, D.
CORPORATE SOURCE: Division of Pharmaceutics, College of Pharmacy, The University of Iowa, Iowa City, IA, 52242, USA
SOURCE: Journal of Biomaterials Science, Polymer Edition (2002), 13(3), 273-286
CODEN: JBSEEA; ISSN: 0920-5063
PUBLISHER: VSP BV

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oxidized cellulose acetates (OCA), with a degree of substitution (DS) value ranging between 1.1 and 2.3 and a free carboxylic acid group content of 20% (wt./wt.), have been prepd. by reacting oxidized cellulose (OC, COOH content 20% wt./wt.) with a mixt. of acetic acid and acetic anhydride in the presence of sulfuric acid as a catalyst. The DS of OCA, in general, increased with increasing reaction temp., reaction time, and concn. of acetic anhydride in the reaction mixt. The yield of OCA, in contrast, increased with increasing concn. of acetic anhydride and decreased with increasing reaction time and temp. The intrinsic viscosity of OCA varied between 0.100 and 0.275, depending on the reaction conditions used during its prepn. In general, an increase in reaction temp. and the use of a prolonged reaction time decreased the intrinsic viscosity of OCA. No correlation was found between DS and intrinsic viscosity of OCA. The apparent pKa of OCA is 3.7-3.9. The new OCA polymers are practically insol. in water and slowly dissolve in pH 7.4 phosphate buffer soln. They are, however, sol. in a range of org. solvents (e.g. Et acetate, acetone, acetone/water, chloroform/methylene chloride, dimethylsulfoxide, DMF, and/or chloroform/methanol).

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 63

IT 9032-53-5P, 6-Carboxycellulose
RL: **RCT (Reactant)**; SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); **RACT (Reactant or reagent)**; USES (Uses)
(prepn. and characterization of **oxidized cellulose** acetates as a new class of **biodegradable** polymers)

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L40 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:505441 HCAPLUS
DOCUMENT NUMBER: 137:68205
TITLE: Biodegradable **oxidized cellulose esters**
INVENTOR(S): Kumar, Vijay; Dong, Yang
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 9 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002086990	A1	20020704	US 2001-7866	20011206
WO 2002053599	A2	20020711	WO 2001-US50108	20011221
WO 2002053599	A3	20021121		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,

BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2000-259038P P 20001229
US 2001-7866 A 20011206

AB Present invention relates to the prepn. of oxidized cellulose esters suitable for use as a drug carrier in the development of biodegradable controlled and/or sustained release pharmaceutical, agricultural, and veterinary compns., such as films, compacts, microspheres, and pellets. The esters are prepd. by **acylation** of oxidized cellulose having at least 3% carboxyl groups. The resulting oxidized cellulose esters are sol. in aq. alk. solns., H2O, and a variety of org. solvents.

IC ICM C08B003-16
NCL 536063000
CC 63-6 (Pharmaceuticals)
ST biodegradable **oxidized cellulose ester**
IT Biodegradable materials
Drugs
Plastic films
Transparent films
Transparent materials
(biodegradable **oxidized cellulose esters**)
IT Medical goods
(biodegradable; biodegradable **oxidized cellulose esters**)
IT Glycols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(ethers, solvent; biodegradable **oxidized cellulose esters**)
IT Ethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(glycol, solvent; biodegradable **oxidized cellulose esters**)
IT Biodegradable materials
(medical; biodegradable **oxidized cellulose esters**)
IT Alcohols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; biodegradable **oxidized cellulose esters**)
IT 85-44-9, Phthalic anhydride 108-24-7, Acetic anhydride 108-30-5, Succinic anhydride, **reactions** 108-31-6, Maleic anhydride, **reactions** 645-66-9, Lauric anhydride
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(**biodegradable oxidized cellulose esters**)
IT 9004-35-7P, **Cellulose** acetate 9004-38-0P, **Cellulose** acetate phthalate 9004-44-8P, **Cellulose** phthalate 39306-92-8P, **Cellulose** laurate 57126-19-9P, **Cellulose** succinate 94555-32-5P, **Cellulose** maleate
RL: IMF (Industrial manufacture); PREP (Preparation)
(**oxidized**; biodegradable **oxidized cellulose esters**)
IT **9004-34-6, Cellulose, reactions**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(**oxidized; biodegradable oxidized cellulose esters**)
IT **67-68-5**, DMSO, uses **68-12-2**, DMF, uses **75-09-2**, Methylene chloride, uses **127-19-5**, DMA **872-50-4**, n-Methyl-2-pyrrolidone, uses

RL: NUU (Other use, unclassified); USES (Uses)
(**solvent**; biodegradable **oxidized cellulose esters**)

L40 ANSWER 4 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:534473 HCAPLUS
DOCUMENT NUMBER: 135:129643
TITLE: Cellulose mixed **acylates**, manufacture of cellulose mixed **acylate** dope, cellulose mixed **acylate** films, and manufacture of the films
INVENTOR(S): Honda, Makoto; Shibue, Toshiaki
PATENT ASSIGNEE(S): Konica Co., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001200097	A2	20010724	JP 2000-9003	20000118

PRIORITY APPLN. INFO.: JP 2000-9003 20000118

AB The cellulose mixed **acylates** bearing acetyl, propionyl, and/or butyryl groups as substituents have av. substitution degrees as follows: X2 + X3 + X6 + Y2 + Y3 + Y6 = 2.45-3.00 and X6 + Y6 = 0.10-0.95 (X2, X3, and X6 indicate av. degrees of Ac substitutions on OH groups at 2-, 3-, and 6-positions, resp.; Y2, Y3, and Y6 indicate av. degrees of propionyl and/or butyryl substitutions on OH groups at 2-, 3-, and 6-positions, resp.; X6 + Y6 indicates av. degree of acyl (Ac, propionyl, and/or butyryl) substitutions on OH groups at 6-positions). The films are manufd. by casting of dope contg. the cellulose mixed **acylates** dissolved in solvents mainly contg. CH2Cl2, MeOAc, and/or fluoroalcs. The cellulose mixed **acylates** show high soly. and their films are useful for protection of polarizers for liq. crystal displays with wide view angle.

IC ICM C08L001-14
ICS B29C041-24; C08J005-18; G02B005-30; G02F001-1335; G03C001-795
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST acetate propionate butyrate cellulose film LCD; cellulose mixed **acylate** liq crystal display
IT Liquid crystal displays
Plastic films
(cellulose mixed **acylates** with high soly. for forming films for LCD)
IT Alcohols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(fluoro, solvents; cellulose mixed **acylates** with high soly. for forming films for LCD)
IT Alcohols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(lower, solvents; cellulose mixed **acylates** with high soly. for forming films for LCD)
IT 9004-36-8P, Cellulose acetate butyrate 9004-39-1P, Cellulose acetate propionate

RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cellulose mixed **acylates** with high soly. for forming films for LCD)

IT 64-19-7, Acetic acid, **reactions** 106-31-0, Butyric anhydride 108-24-7, Acetic anhydride 123-62-6, Propionic anhydride
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(**cellulose** mixed **acylates** with high soly. for forming films for LCD)

IT 64-17-5, Ethanol, uses **75-09-2**, Methylene chloride, uses 79-20-9, Methyl acetate
RL: NUU (Other use, unclassified); USES (Uses)
(**solvent**; cellulose mixed **acylates** with high **soly**. for forming films for LCD)

L40 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:562935 HCAPLUS
DOCUMENT NUMBER: 133:157763
TITLE: Cholesteric polymer liquid crystal compositions, cholesteric polymer liquid crystals, and their preparation
INVENTOR(S): Yukimasa, Hiroshi; Tanaka, Yasuyuki; Watanabe, Junji; Ise, Hiroshi
PATENT ASSIGNEE(S): Dainichi Seika Kogyo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000226581	A2	20000815	JP 1999-26633	19990203

PRIORITY APPLN. INFO.: JP 1999-26633 19990203

AB The compns. comprise cholesteric polymer liq. crystal-forming compds. mainly consisting of acyl derivs. of hydroxyalkyl cellulose and compds. with cures by irradn. of energy beam. The compns. are treated by coating, filling, or molding, treated by control of the wavelength of the reflective light, and then irradiated with energy beam to give cholesteric polymer liq. crystals having fixed their helical structure. The cholesteric polymer liq. crystals are also claimed. Ideal and clear color tones are obtained by the liq. crystals. The liq. crystals are useful in optical imaging devices and as colorants.

IC ICM C09K019-38
ICS G02F001-13; G02F001-1333

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 75

IT 123-62-6, Propionic acid anhydride 920-46-7 9004-64-2, Hydroxypropylcellulose 26249-20-7, Butylene **oxide**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(cholesteric polymer liq. crystal compns. comprising of hydroxyalkyl **cellulose acyl** derivs. and photocurable polymers for)

L40 ANSWER 6 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:584811 HCAPLUS

DOCUMENT NUMBER: 131:201433
TITLE: Catalytic system for cellulose **acylation**, process for producing catalytic system, and for its practical application
INVENTOR(S): Grishin, Eduard Pavlovich; Bondar, Valentin Ananievich; Mironov, Dmitry Petrovich; Shamolin, Anatoly Ivanovich
PATENT ASSIGNEE(S): Nauchno-Proizvodstvennaya Firma "efiry Tselljulosy", Russia
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5952260	A	19990914	US 1996-654353	19960528
RU 2069215	C1	19961120	RU 1992-14662	19921225
RU 2101293	C1	19980110	RU 1992-14660	19921225
WO 9414344	A1	19940707	WO 1993-RU940030	19931217
W: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE RW: JP, US				
US 6407224	B1	20020618	US 1999-356177	19990716

PRIORITY APPLN. INFO.:

RU 1992-14660	A	19921225
RU 1992-14662	A	19921225
WO 1993-RU307	W	19931217
US 1994-295662	A2	19940825
US 1996-654353	A3	19960528

AB The catalyst system includes an adduct of H2SO4 with AcNMe2 1.0, a C2-4 fatty acid 14.0, and free H2SO4 .ltoreq.14.0, or free AcNMe2 .ltoreq.0.4 (mol ratio). The catalyst system also includes an adduct of HClO4 with AcNMe2 for use in cellulose reactions with propionic or butyric anhydride. Method for prepg. the catalyst system includes reacting hydrous H2SO4 or H2SO4 and HClO4 with AcNMe2 in the presence of a lower fatty acid anhydride in an amt. of 1 mol per mol of water contained in the reactants in the absence of cellulose at 0-25.degree..

IC ICM B01J003-02
ICS B01J003-04
NCL 502167000
CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 67
ST sulfuric **acid** dimethylacetamide adduct **acylation catalyst**; propionic anhydride cellulose **acylation catalyst**; butyric anhydride cellulose **acylation catalyst**; acetate cellulose **acylation catalyst**
IT **Acylation**
Acylation catalysts
(catalyst system contg. dimethylacetamide-H2SO4 adduct for cellulose **acylation**)
IT Carboxylic **acids**, uses
RL: CAT (Catalyst use); USES (Uses)
(short-chain; **catalyst** system contg. dimethylacetamide-H2SO4 adduct for cellulose **acylation**)
IT 64-19-7, Acetic **acid**, uses 79-09-4, Propionic **acid**, uses 107-92-6, Butanoic **acid**, uses 127-19-5, N,N-Dimethylacetamide **7601-90-3**, Perchloric **acid**, uses

7664-93-9, Sulfuric **acid**, uses 241824-45-3
241824-46-4
RL: CAT (Catalyst use); USES (Uses)
(**catalyst** system contg. dimethylacetamide-H2SO4 adduct for cellulose **acylation**)
IT 9004-35-7P, Cellulose acetate 9004-48-2P, Cellulose propionate
9015-12-7P, Cellulose butyrate
RL: IMF (Industrial manufacture); PREP (Preparation)
(catalyst system contg. dimethylacetamide-H2SO4 adduct for cellulose **acylation**)
IT 106-31-0, Butyric anhydride 108-24-7, Acetic anhydride 123-62-6, Propionic anhydride **9004-34-6, Cellulose, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(catalyst system contg. dimethylacetamide-H2SO4 adduct for **cellulose acylation**)
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L40 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:219958 HCAPLUS
DOCUMENT NUMBER: 130:257158
TITLE: Stabilized hair care products comprising an anionic detersive surfactant, a water-insol. silicone and an acrylic stabilizer
INVENTOR(S): Patel, Amrit; Aldrich, Tracey; Schweid, Bret
PATENT ASSIGNEE(S): Colgate-Palmolive Company, USA
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913837	A1	19990325	WO 1998-US19286	19980910
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6165454	A	20001226	US 1997-933521	19970918
CA 2304085	AA	19990325	CA 1998-2304085	19980910
AU 9893169	A1	19990405	AU 1998-93169	19980910
AU 758881	B2	20030403		
EP 1014917	A1	20000705	EP 1998-946074	19980910
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI, RO				
BR 9812349	A	20000919	BR 1998-12349	19980910
NZ 503424	A	20020426	NZ 1998-503424	19980910
ZA 9808531	A	20000322	ZA 1998-8531	19980917
NO 2000001422	A	20000516	NO 2000-1422	20000317
MX 200002749	A	20001026	MX 2000-2749	20000317

PRIORITY APPLN. INFO.: US 1997-933521 A 19970918
WO 1998-US19286 W 19980910

AB A low energy method for making stabilized hair care products comprising an anionic detersive surfactant, a water-insol. silicone and and acrylic stabilizing agent is disclosed wherein the method does not require added heat. A hair prepn. contained 28% ammonium lauryl sulfate 50.00, cocodiethanolamine 2.00, Polyquaternium-10 0.15, monosodium phosphate 0.30, cationic guar gum 0.20, distearyldiammonium chloride 0.20, dimethicone 3.00, sodium cumene sulfonate 0.50, preservative, perfume, color, and water q.s. 100%.

IC ICM A61K007-06
ICS A61K007-50

CC 62-3 (Essential Oils and Cosmetics)

IT 69-72-7, Salicylic acid, biological studies 79-09-4D, Propionic acid, cocoamido derivs. 107-36-8D, Isethionic acid, alkyl ethenoyl ether derivs. 107-64-2, Distearyl dimonium chloride 109-55-7D, C8-22-**acyl** derivs. 112-02-7, Cetyl trimethylammonium chloride 123-00-2D, 4-Morpholinepropanamine, C8-22-**acyl** derivs. 1310-73-2, Sodium hydroxide, biological studies 1643-20-5, Dodecyl dimethylamine oxide 2235-54-3, Ammonium lauryl sulfate 2571-88-2, Octadecyl dimethylamine oxide 2605-78-9, Octyl dimethylamine oxide 5138-18-1D, Sulfosuccinic acid, C8-18 dialkyl derivs. 7632-05-5, Sodium phosphate **7664-93-9D**, Sulfuric acid, alkyl ethenoyl ether derivs., biological studies 9000-30-0, Guar gum 9002-88-4 9003-01-4, Acrylic acid polymer 9004-34-6D, Cellulose, hydroxyalkyl cellulose, biological studies 9004-62-0, Hydroxyethyl cellulose 9004-82-4, Sodium laureth sulfosuccinate 9006-65-9, Dimethicone 11078-30-1, Galactomannan 13463-41-7, Zinc pyrithione 26062-79-3, Polyquaternium6 26256-79-1D, Sodium lauriminodipropionate, cocobetamido derivs. 26590-05-6, Polyquaternium 7 28348-53-0, Sodium cumene sulfonate 38083-17-9, Climbazole 50813-51-9, Acrysol ase 75 51365-71-0, Distearyl phthalic acid amide 56093-45-9, Selenium sulfide 73337-96-9 81859-24-7, Polyquaternium 10 82642-95-3, Carbopol 907 86880-59-3D, N-cocoyl derivs. 87977-44-4D, C8-18-alkyl esters 118058-39-2, Unilin 425 160307-10-8, Aculyn 33 163063-14-7, Aculyn 22 221627-88-9, Acusol 830
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(stabilized hair care products comprising anionic detersive surfactant, water-insol. silicone and acrylic stabilizer)

IT 9004-62-0D, Hydroxyethyl **cellulose**, quaternary ammonium salts
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(stabilized hair care products comprising anionic detersive surfactant, water-insol. silicone and acrylic stabilizer)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L40 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:717943 HCAPLUS
DOCUMENT NUMBER: 127:360151
TITLE: Process for preparing cellulose acetoacetate alkanoates
INVENTOR(S): Kuo, Chung Ming; Edgar, Kevin Joseph
PATENT ASSIGNEE(S): Eastman Chemical Co., USA
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9740074	A1	19971030	WO 1997-US6857	19970423
W: BR, CN, JP, SG				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5770726	A	19980623	US 1997-814944	19970310
EP 895514	A1	19990210	EP 1997-922423	19970423
EP 895514	B1	20000621		
R: BE, CH, DE, FR, GB, IT, LI				
CN 1223665	A	19990721	CN 1997-195798	19970423
BR 9708816	A	19990803	BR 1997-8816	19970423
JP 2000509090	T2	20000718	JP 1997-538329	19970423

PRIORITY APPLN. INFO.:

US 1996-16278P	P	19960424
US 1997-814944	A	19970310
WO 1997-US6857	W	19970423

AB A process for prepg. a cellulose acetoacetate alkanoate without using a carboxamide/LiCl solvent system is disclosed. The process involves contacting cellulose in a carboxylic acid diluent with an **acylating** compd. selected from the group consisting of a carboxylic acid anhydride and an acid chloride, an acetoacetylating compd. selected from the group consisting of diketene, an alkyl acetoacetate and 2,2,6-trimethyl-4H-1,3-dioxin-4-one, and a mineral acid catalyst under conditions and in a molar ratio sufficient to cause the cellulose, **acylating** compd. and acetoacetylating compd. to react to produce a cellulose acetoacetate alkanoate. Thus, a cellulose ester was prepd. in this manner by using Natchez HVX as cellulose source, AcOH as diluent, Ac2O, diketene, H2SO4 and water as nonsolvent at reaction temp. of 60.degree..

IC ICM C08B003-16

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)

ST **acylation** acetoacetylation cellulose reagent; diketene acetoacetylation agent cellulose deriv; acetic anhydride **acylation** cellulose; derivatization cellulose **acylation** acetoacetylation agent; carboxylic acid diluent **acylation** acetoacetylation cellulose

IT **Acids**, uses
RL: CAT (Catalyst use); USES (Uses)
(inorg., **acylation**/acetoacetylation **catalysts**; process for prepg. cellulose acetoacetate alkanoates)

IT **Acylation**
(process for prepg. cellulose acetoacetate alkanoates)

IT 674-82-8, Diketene 1694-31-1D, esters 5394-63-8, 2,2,6-Trimethyl-4H-1,3-dioxin-4-one
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(acetoacetylation agent; process for prepg. **cellulose** acetoacetate alkanoates)

IT 106-31-0, Butyric anhydride 108-24-7, Acetic anhydride 123-62-6, Propionic anhydride 623-65-4, Palmitic anhydride 638-08-4, Stearic anhydride 645-66-9, Lauric anhydride 1680-36-0, Nonanoic anhydride 2051-49-2, Hexanoic anhydride 2082-77-1, Undecylic anhydride 24909-68-0, Linoleic anhydride 24909-72-6, Oleic anhydride
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(**acylation** agent; process for prepg. **cellulose** acetoacetate alkanoates)

IT 75-75-2, Methanesulfonic **acid 7601-90-3**, Perchloric **acid**, uses **7664-93-9**, Sulfuric **acid**, uses
RL: CAT (Catalyst use); USES (Uses)

(**catalyst**; process for prepg. cellulose acetoacetate alkanoates)

L40 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:568820 HCAPLUS
DOCUMENT NUMBER: 127:235911
TITLE: Surface-**acylated** (ligno)cellulose particles, their manufacture and uses as additives for polymeric materials
INVENTOR(S): Yoshikawa, Yuji; Nanba, Hiroaki
PATENT ASSIGNEE(S): Jujo Paper Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09221501	A2	19970826	JP 1996-49523	19960213

PRIORITY APPLN. INFO.: JP 1996-49523 19960213

AB The (ligno)cellulose particles having degree of **acylation** (D) on surface of 0.01-0.5, good hydrophobicity and resistance to mildew are manufd. by dispersing 100 parts (ligno)cellulose in 300-800 parts non-swellable solvents and **acylating** by 40-200 parts acid anhydrides and 50-500 parts aliph. carboxylic acids in the presence of 0.1-5 parts catalysts. The surface **acylated** (ligno)celluloses are useful as fillers, pigments or additives for plastics, rubbers, coatings, and adhesives. Thus, 100 g KC Flock W100 (powd. cellulose) in 500 mL MePh was mixed with 60 g Ac2O, 100 g AcOH, and 3 g H2SO4 in 100 g AcOH for 30 min, filtered, and dried at 105.degree. for 2 h to give acetylcellulose (I; D 0.049), 15 parts of which was combined with 30 parts natural rubber then the compn. was further mixed with other additives and vulcanized to give a test piece showing good dispersion of I.

IC ICM C08B003-20
ICS C08B003-00; C08L001-00; C09D101-00; C09J101-00
CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 38, 39, 42
ST cellulose particle filler surface **acylation**; rubber additive **acylated** cellulose particle; pigment **acylated** cellulose particle; natural rubber acetylcellulose dispersibility; nonswelling solvent toluene cellulose acetylation
IT Wood
Wood
(flour; surface **acylation** of lignocellulose for use in polymeric materials)
IT **Acylation**
Adhesives
Coating materials
Fillers
Pigments, nonbiological
(surface **acylation** of lignocellulose for use in polymeric materials)
IT Epoxy resins, uses
Natural rubber, uses
Plastics, uses
RL: POF (Polymer in formulation); USES (Uses)

(surface **acylation** of lignocellulose for use in polymeric materials)

IT 106-31-0, Butyric anhydride 108-24-7, Acetic anhydride 123-62-6, Propionic anhydride
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylating agent; surface **acylation** of lignocellulose for use in polymeric materials)

IT **7664-93-9**, Sulfuric **acid**, uses
RL: CAT (Catalyst use); USES (Uses)
(**acylation catalysts**; surface **acylation** of lignocellulose for use in polymeric materials)

IT 64-19-7, Acetic acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; surface **acylation** of lignocellulose for use in polymeric materials)

IT 67-66-3, Chloroform, uses **75-09-2**, uses 108-88-3, Toluene, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**solvents**; surface **acylation** of lignocellulose for use in polymeric materials)

IT **9004-34-6**, KC Flock W100, **reactions**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(surface **acylation** of lignocellulose)

IT 9004-35-7P, Cellulose acetate 9004-36-8P, Cellulose, acetate butyrate 9004-39-1P, Cellulose, acetate propionate 9004-48-2P, Propionylcellulose 9015-12-7P, Cellulose, butyrate
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(surface **acylation** of lignocellulose for use in polymeric materials)

IT 38294-69-8, Bisphenol a-epichlorohydrin-triethylenetetramine copolymer
RL: POF (Polymer in formulation); USES (Uses)
(surface **acylation** of lignocellulose for use in polymeric materials)

IT **9004-34-6**, **Cellulose**, **reactions** 11132-73-3, Lignocellulose
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(surface **acylation** of lignocellulose for use in polymeric materials)

L40 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:551376 HCAPLUS
DOCUMENT NUMBER: 125:198904
TITLE: Cellulose esters and their direct production
INVENTOR(S): Edgar, Kevin Joseph; Bogan, Richard Thomas
PATENT ASSIGNEE(S): Eastman Chemical Company, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9620960	A1	19960711	WO 1995-US16562	19951215

W: CA, JP, MX
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

US 5750677	A	19980512	US 1994-367025	19941230
CA 2208662	AA	19960711	CA 1995-2208662	19951215
EP 800537	A1	19971015	EP 1995-943477	19951215
EP 800537	B1	20020502		
R: DE, FR, GB, NL, SE				
JP 10511728	T2	19981110	JP 1995-521055	19951215
US 5929229	A	19990727	US 1998-36646	19980306

PRIORITY APPLN. INFO.: US 1994-367025 A 19941230
WO 1995-US16562 W 19951215

OTHER SOURCE(S): MARPAT 125:198904

AB Cellulose esters having total degree of substitution (d.s.) per anhydroglucose unit 0.1-3.0 are obtained by contacting the following: (a) a cellulose material, (b) a solubilizing amt. of a solvent system comprising a carboxamide or a urea-based diluent, (c) an **acylating** reagent, and (d) a Ti-contg. compd. catalyst. A wide range of cellulosic materials and temps. may be employed and the degree of **acylation** may be controlled without the need to hydrolyze triesters down to the desired d.s. Mixed esters may also be obtained by this process. In an example, cellulose pulp was heated with 6 equiv acetic anhydride in AcNMe2 contg. tetraiso-Pr titanate at 120.degree. to give cellulose acetate of d.s. 2.3 with good soly. in solvents.

IC ICM C08B003-00
ICS C08B003-06

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)

ST cellulose esterification direct; titanium catalyst **acylation** cellulose

IT 57-10-3, Palmitic acid, **reactions** 57-11-4, Stearic acid, **reactions** 60-33-3, Linoleic acid, **reactions** 65-85-0, Benzoic acid, **reactions** 75-36-5, Acetyl chloride 79-03-8, Propionyl chloride 79-09-4, Propionic acid, **reactions** 106-31-0, Butyric anhydride 108-24-7, Acetic anhydride 112-16-3, Lauroyl chloride 112-76-5, Stearoyl chloride 112-80-1, Oleic acid, **reactions** 123-62-6, Propionic anhydride 141-75-3, Butyryl chloride 142-61-0, Hexanoyl chloride 143-07-7, Lauric acid, **reactions** 334-48-5, Capric acid 463-40-1, Linolenic acid 463-51-4, Ketene 623-65-4, Palmitic anhydride 638-08-4, Stearic anhydride 645-66-9, Lauric anhydride 674-82-8, Diketene 1680-36-0, Nonanoic anhydride 1694-31-1, tert-Butyl acetoacetate 2051-49-2, Hexanoic anhydride 5394-63-8, 2,2,6-Trimethyl-4H-1,3-dioxin-4-one 31290-91-2, Cyclohexanedicarboxylic acid
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(**acylating** agent; direct prodn. of **cellulose** esters)

IT **9004-34-6, Cellulose, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(direct prodn. of **cellulose** esters)

IT 80-73-9 **127-19-5**, N,N-Dimethylacetamide 685-91-6, N,N-Diethylacetamide 758-96-3, N,N-Dimethylpropionamide **872-50-4**, 1-Methyl-2-pyrrolidinone, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**solvent**; direct prodn. of cellulose esters)

L40 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:745284 HCAPLUS
DOCUMENT NUMBER: 123:202505
TITLE: Lewis **acid catalysis** of acetylation of cellulose
AUTHOR(S): Osmonkanova, G. N.; Sarybaeva, R. I.; Afanas'ev, V.

A.; Satyvaldiev, A. S.; Dzhamanbaev, Zh. A.
CORPORATE SOURCE: Inst. Org. Chem., Acad. Sci. Kyrgyziya Chui, Bishkek, 720071, Kyrgyzstan
SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A i Seriya B (1995), 37(4), 679-82
CODEN: VSSBEE
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB A high catalytic activity in esterification of cellulose was shown for some Lewis acids of the general formula MtXn (where Mt is a metal ion and X is halogen) and their mixts. with proton acids. Synergism was obsd. when MtXn and proton acids were used as co-catalysts. The different catalytic activities of the acids were interpreted based on the elec. cond. of the **acylating** mixts. The mechanism of the catalytic acetylation of cellulose was proposed.
CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
ST cellulose acetylation Lewis **acid catalyst**
IT Acetylation **catalysts**
(Lewis **acids**; for cellulose)
IT Lewis **acids**
RL: CAT (Catalyst use); USES (Uses)
(**catalysts**; for acetylation of cellulose)
IT **9004-34-6, Cellulose, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(Lewis **acid catalysis** in acetylation of)
IT 9004-35-7P, Cellulose acetate
RL: SPN (Synthetic preparation); PREP (Preparation)
(Lewis **acid catalysis** in prepn. of)
IT 109-63-7, Boron trifluoride etherate 7646-78-8, Tin tetrachloride, uses **7646-85-7**, Zinc dichloride, uses 7647-18-9, Antimony pentachloride 7727-15-3, Aluminum bromide
RL: CAT (Catalyst use); USES (Uses)
(Lewis **acid catalyst**; for acetylation of cellulose)
IT 7647-01-0, Hydrochloric **acid**, uses **7664-93-9**, Sulfuric **acid**, uses
RL: CAT (Catalyst use); USES (Uses)
(**catalyst**; acetylation of cellulose in presence of Lewis **acids** and)

L40 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:11398 HCAPLUS
DOCUMENT NUMBER: 122:12321
TITLE: Properties and following **reactions** of homogeneously **oxidized celluloses**
AUTHOR(S): Heinze, Th.; Klemm, D.; Schnabelrauch, M.; Nehls, I.
CORPORATE SOURCE: Inst. fur Org. Chem., Makromol. Chem. der Friedrich-Schiller-Universitat Jena, Humboldtstrasse, D-0-Jena/10, Germany
SOURCE: Cellul.: Chem., Biochem. Mater. Aspects (1993), 349-54. Editor(s): Kennedy, John F.; Phillips, Glyn O.; Williams, Peter A. Horwood: London, UK.
CODEN: 59RAA9
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Na carboxycellulose (I) with a COOH group content of .ltoreq.0.8 can be prepd. by oxidn. of cellulose with NaNO2/H3PO4 and subsequent treatment with NaBH4. The extent of oxidn. increases on increasing the mol. wt. of

the starting cellulose. There are no keto groups in the oxidized polymers. I shows a high tendency to form ionotropic gels. Activation and treatment of I with SO3 or HSO3Cl leads to the corresponding sulfate esters with d.s. values .ltoreq.0.45.

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)

IT Gels
(ionotropic; properties and **reactions** of homogeneously **oxidized celluloses**)

IT **Carboxyl group**
Esterification
Oxidation
(properties and **reactions** of homogeneously **oxidized celluloses**)

IT 9069-12-9, 6-Carboxycellulose, sodium salt
RL: PRP (Properties); **RCT (Reactant); RACT (Reactant or reagent)**
(properties and **reactions** of homogeneously **oxidized celluloses**)

IT 7632-00-0, Sodium nitrite (NaNO2) **7664-38-2**, Phosphoric acid, **reactions 9004-34-6, Cellulose, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(properties and **reactions** of homogeneously **oxidized celluloses**)

L40 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:131017 HCAPLUS
DOCUMENT NUMBER: 116:131017
TITLE: Effect of the preparation conditions of viscose on the solubility of DA-xanthates
AUTHOR(S): Lang, H.; Lukanoff, B.
CORPORATE SOURCE: Inst. Polym. Chem. "Erih Korrens", Germany
SOURCE: Koksnes Kimija (1991), (4), 34-6
CODEN: KHDRDQ; ISSN: 0201-7474
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The characteristics of viscose solns. from beechwood sulfite pulp were studied. Xanthates were prepd. from viscose via dry, wet, and semidry xanthation. In order to stabilize xanthates, they were modified with diethylchloroacetamide (DA). Rayon from xanthates prepd. via semidry xanthation exhibited the best physicomech. properties due to high substitution degree and soly. of the xanthates.

CC 40-2 (Textiles and Fibers)
Section cross-reference(s): 43

IT **Acylation**
(xanthation, of viscose, effect on properties of xanthates on method of)

IT **67-68-5**, DMSO, properties 7732-18-5, Water, uses
RL: USES (Uses)
(**solvents** contg., **soly.** of diethylchloroacetamide-modified cellulose xanthates in, prepn. conditions effect on)

IT 2315-36-8D, **reaction** products with **cellulose** xanthate
9032-37-5D, **Cellulose** xanthate, **reaction** products with diethylchloroacetamide
RL: PRP (Properties)
(soly. of, effect of viscose prepn. conditions on)

L40 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1991:473895 HCAPLUS
DOCUMENT NUMBER: 115:73895
TITLE: Preparation of cation exchangers from apple residues. I. Treatments and characterization
AUTHOR(S): Maranon, Elena; Contreras, Alfonso; Sastre, Herminio
CORPORATE SOURCE: Dep. Ing. Quim., Univ. Oviedo, Oviedo, Spain
SOURCE: Afinidad (1991), 48(433), 180-2
CODEN: AFINAE; ISSN: 0001-9704
DOCUMENT TYPE: Journal
LANGUAGE: Spanish

AB Residues of apple juice extn., contg. pectin, cellulose, hemicelluloses, lignin, reducing sugars, etc., were treated by sequential oxidn., oxidative crosslinking, carboxymethylation, xanthation, and phosphorylation, to obtain a material with cation exchange properties. The material has porosity, d., moisture content, and swelling characteristics that facilitate ion transport and high chem. and structural stability, compared to those of the nontreated juice press waste.

CC 44-7 (Industrial Carbohydrates)
Section cross-reference(s): 17, 24, 38

IT **Acylation**
(xanthation, of apple juice residues contg. celluloses and pectin, with epichlorohydrin and carbon disulfide, for cation exchanger manuf.)

IT 50-00-0, Formaldehyde, **reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(**oxidative** crosslinking with, of apple juice residues contg. **celluloses** and pectin, for cation exchanger manuf.)

L40 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:461523 HCAPLUS
DOCUMENT NUMBER: 113:61523
TITLE: Spherical ionotropic gels of cellulose derivatives containing **carboxy groups** as carriers for biocatalysts. IV. Synthesis of **carboxycellulose** and ionotropic gelation with calcium ions
AUTHOR(S): Heinze, Thomas; Klemm, Dieter; Loth, Fritz; Nehls, Irene
CORPORATE SOURCE: Sekt. Chem., Friedrich-Schiller-Univ., Jena, DDR-6900, Ger. Dem. Rep.
SOURCE: Angewandte Makromolekulare Chemie (1990), 178, 95-107
CODEN: ANMCBO; ISSN: 0003-3146
DOCUMENT TYPE: Journal
LANGUAGE: German

AB Na carboxycellulose with degree of substitution <0.8% was prepd. by oxidn. of cellulose with $NaNO_2/H_3PO_4$ and subsequent treatment with $NaBH_4$. No carbonyl group could be detected until after treatment with $NaBH_4$. IR and NMR studies showed that only the C-6 atom of the anhydrogluose unit was oxidized. Na carboxycellulose exhibited a high tendency to form spherical ionotropic gels in spherical shape with Ca ions. Gel formation was apparent with addn. of 0.5 mol Ca/mol CO_2, and 80% gel formation was attained at 4 mol Ca/mol CO_2. The mech. stable gels were characterized by swelling behavior and SEM and could be used as nontoxic supports.

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)

IT 7632-00-0, Sodium nitrite **7664-38-2**, Phosphoric acid, uses and miscellaneous 16940-66-2
RL: PROC (Process)
(oxidn. of cellulose in presence of)

IT **9004-34-6, Cellulose, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(**oxidn.** of, in presence of sodium nitrite and phosphoric acid)

L40 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:87477 HCAPLUS
DOCUMENT NUMBER: 100:87477
TITLE: Modification of cellulose nitrates by carboxylic acid chlorides in the presence of Lewis acids
AUTHOR(S): Shchelokhova, L. S.; Sarybaeva, R. I.
CORPORATE SOURCE: Inst. Org. Khim., Frunze, USSR
SOURCE: Zhurnal Prikladnoi Khimii (Sankt-Peterburg, Russian Federation) (1983), 56(11), 2560-4
CODEN: ZPKHAB; ISSN: 0044-4618
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB The **acylation** of cellulose nitrate (I) [9004-70-0] with RCOCl (R = aliph., arom.) at 20-70.degree. in org. solvents was catalyzed by Lewis acids. The content of residual N in the mixed esters was an exponential function of catalyst concn. The activity of the Lewis acid catalyst decreased in the order: SnCl4 > SbCl5 > AlCl3 > TiCl4 > ZnCl2 > BF3.OEt2. The transesterification of I caused no inversion of configuration in the secondary C atoms. The mixed esters where useful as fire-resistant compns.
CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
ST **acylation catalyst** cellulose nitrate; Lewis **acid catalyst acylation** ester; fire resistance cellulose ester
IT Lewis **acids**
RL: CAT (Catalyst use); USES (Uses)
(**catalysts**, for **acylation** of cellulose nitrate)
IT 75-36-5 79-03-8 98-88-4 100-07-2 103-80-0 108-12-3 112-76-5 122-04-3 638-29-9 2528-61-2
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(**acylation** by, of **cellulose** nitrate in presence of Lewis acids)
IT 7446-70-0, uses and miscellaneous 7550-45-0, uses and miscellaneous 7637-07-2, uses and miscellaneous 7646-78-8, uses and miscellaneous **7646-85-7**, uses and miscellaneous 7647-18-9
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for **acylation** of cellulose nitrate)

L40 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1980:78384 HCAPLUS
DOCUMENT NUMBER: 92:78384
TITLE: Preparation of higher aliphatic acid esters of wood in a dinitrogen tetroxide-DMF cellulose solvent medium
AUTHOR(S): Shiraishi, Nobuo; Matsunaga, Tadayo; Yokota, Tokuo; Hayashi, Yoshiyuki
CORPORATE SOURCE: Fac. Agric., Kyoto Univ., Kyoto, 606, Japan
SOURCE: Journal of Applied Polymer Science (1979), 24(12), 2347-59
CODEN: JAPNAB; ISSN: 0021-8995
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In the **acylation** of wood meal (Betula maximowicziana) with aliph. acid anhydrides and chlorides, the use of N2O4-DMF

[68-12-2]-pyridine as a reaction medium resulted in decrystn. of wood, enabling uniform substitution of cellulose [9004-34-6] with acyl groups. Acid chlorides (caproyl chloride [142-61-0], stearoyl chloride [112-76-5], etc.) were more effective **acylation** agents than anhydrides (caproic anhydride [2051-49-2], butyric anhydride [106-31-0]); although no difference in reactivity was obsd. among acid chlorides, the reactivity of anhydrides decreased with increasing chain length.

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 22

ST solvent esterification cellulose birchwood; dinitrogen tetroxide cellulose esterification; DMF cellulose esterification birchwood; acid chloride **acylation** birchwood; anhydride **acylation** birchwood

IT **Acylation**
(of birchwood, in DMF-nitrogen tetroxide solns.)

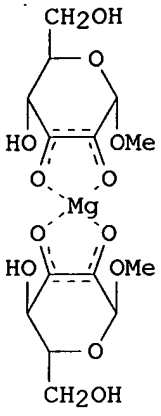
IT Wood
(birch, **acylation** of, in DMF-nitrogen tetroxide solns.)

IT **9004-34-6, reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(**acylation** of, in birchwood in presence of dinitrogen tetroxide-DMF)

IT 97-72-3 106-31-0 111-64-8 112-13-0 112-16-3 112-67-4 112-76-5 142-61-0 2051-49-2 2082-59-9
RL: USES (Uses)
(**acylation** with, of cellulose in birchwood)

IT **68-12-2**, uses and miscellaneous
RL: USES (Uses)
(**solvents**, contg. dinitrogen tetroxide, for esterification of cellulose in birchwood)

L40 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1977:190404 HCAPLUS
DOCUMENT NUMBER: 86:190404
TITLE: Stabilization of hexulosides and of oxycellulose in alkaline medium by interaction with metallic cations
AUTHOR(S): Defaye, Jacques; Driguez, Hugues; Gadelle, Andree
CORPORATE SOURCE: Cent. Rech. Macromol. Veg., Grenoble, Fr.
SOURCE: Applied Polymer Symposia (1976), 28(Proc. Cellul. Conf., 8th, 1975, Vol. 3), 955-69
CODEN: APPSBX; ISSN: 0570-4898
DOCUMENT TYPE: Journal
LANGUAGE: French
GI



III

AB In aq. alk. media contg. Mg salts both Me .alpha.-D-arabino-hexopyranosid-2-ulose (I) and Me .alpha.-D-ribo-hexopyranosid-3-ulose (II) form the chelate III. The 3-O-Me ether of I did not form a complex. In the absence of Mg++, I and II in alk. media underwent decompn. as did oxycellulose. Ba++ and Ca++ also interacted with I and II, but gave only very weak protection of oxycellulose (IV) against depolymerization. In excess base, II showed no modification based on NMR nor was the viscosity of the subsequently reduced IV modified. Thus, chelation by Mg++ of an hexulopyranoside moiety may be involved in the stabilization of cellulose by Mg++ in the alk. oxidative pulping process.

CC 33-8 (Carbohydrates)
Section cross-reference(s): 43

IT 2466-76-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(**acylation** by, of methyl benzylideneglucopyranoside)

IT **9004-34-6D, oxidized**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(**reaction** of, with magnesium ion in alkaline media)

L40 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1975:549349 HCAPLUS
DOCUMENT NUMBER: 83:149349
TITLE: Kinetics and mechanism of cellulose **acylation**
AUTHOR(S): Pyatakina, N. K.; Moiseev, Yu. V.; Zaikov, G. E.
CORPORATE SOURCE: Vses. Nauchno-Issled. Inst. Sint. Smol, Vladimir, USSR
SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A (1975), 17(7), 1493-6
CODEN: VYSAAF; ISSN: 0507-5475
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The **acylation** of cotton cellulose (I) (d.p. 2800) with a mixt. of Ac2O and AcOH in various ratios and in the presence of 0.005-0.02 mole/l HClO4 [**7601-90-3**] was a 1st order reaction, adequately described by the Arrhenius equation. The activation energy of **acylation** of I (in a mixt. of 20% Ac2O and 80% AcOH) was 17.0 .+-. 1 kcal/mole. An ionic **acylation** mechanism (via **acylium** ions) of I was proposed.

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)

ST cellulose **acylation** kinetics; mechanism **acylation** cellulose

IT 64-19-7, **reactions**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(acetylation with acetic anhydride and, of **cellulose,** kinetics of)

IT **7601-90-3,** uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, in acetylation of cotton cellulose, kinetics in relation to)

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FILE 'WPIDS' ENTERED AT 13:14:20 ON 23 JUN 2003
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=> d his


     (FILE 'WPIDS' ENTERED AT 13:02:49 ON 23 JUN 2003)
               DEL HIS Y
L1         87421 S CELLULOSE#
L2           307 S L1 (S) ACYLAT?
L3             4 S L2 (S) OXIDI?
L4             5 S L2 (S) OXIDA?
L5             8 S L3 OR L4
L6          9251 S L1 (S) ESTER#
L7           116 S L6 AND ACYLAT?
L8        145539 S CARBOXYLIC OR CARBOXYL
L9            32 S L7 AND L8
L10        27691 S ORGANIC ACID#
L11        34512 S DMSO OR DMF OR DMA OR DIOXANE OR METHYLENE CHLORIDE#
L12            5 S L11 AND L7
L13           10 S ACID ANHYDRID?  AND L7
L14        14897 S ACID CATALYS?
L15        40628 S (SULFURIC OR SULPHURIC) (W) ACID# OR PHOPHORIC ACID OR PERCHL
L16        70372 S L15 OR PHOSPHORIC ACID
L17            3 S L7 AND L16
L18           23 S L3 OR L4 OR L5 OR L12 OR L13 OR L17
L19          748 S L1 (S) BIODEGRAD?
L20           20 S L19 (S) OXIDI?
L21            4 S L20 (S) ESTER?
L22           26 S L18 OR L21

     FILE 'WPIDS' ENTERED AT 13:14:20 ON 23 JUN 2003

=> d que l22
L1         87421 SEA FILE=WPIDS ABB=ON  PLU=ON  CELLULOSE#
L2           307 SEA FILE=WPIDS ABB=ON  PLU=ON  L1 (S) ACYLAT?
L3             4 SEA FILE=WPIDS ABB=ON  PLU=ON  L2 (S) OXIDI?
L4             5 SEA FILE=WPIDS ABB=ON  PLU=ON  L2 (S) OXIDA?
L5             8 SEA FILE=WPIDS ABB=ON  PLU=ON  L3 OR L4
L6          9251 SEA FILE=WPIDS ABB=ON  PLU=ON  L1 (S) ESTER#
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L7          116 SEA FILE=WPIDS ABB=ON  PLU=ON  L6 AND ACYLAT?
L11       34512 SEA FILE=WPIDS ABB=ON  PLU=ON  DMSO OR DMF OR DMA OR DIOXANE
                OR METHYLENE CHLORIDE#
L12           5 SEA FILE=WPIDS ABB=ON  PLU=ON  L11 AND L7
L13          10 SEA FILE=WPIDS ABB=ON  PLU=ON  ACID ANHYDRID?  AND L7
L15       40628 SEA FILE=WPIDS ABB=ON  PLU=ON  (SULFURIC OR SULPHURIC) (W)
                ACID# OR PHOPHORIC ACID OR PERCHLORIC ACID OR ZINC CHLORIDE OR
                ZNCL
L16       70372 SEA FILE=WPIDS ABB=ON  PLU=ON  L15 OR PHOSPHORIC ACID
L17           3 SEA FILE=WPIDS ABB=ON  PLU=ON  L7 AND L16
L18          23 SEA FILE=WPIDS ABB=ON  PLU=ON  L3 OR L4 OR L5 OR L12 OR L13 OR
                L17
L19         748 SEA FILE=WPIDS ABB=ON  PLU=ON  L1 (S) BIODEGRAD?
L20          20 SEA FILE=WPIDS ABB=ON  PLU=ON  L19 (S) OXIDI?
L21           4 SEA FILE=WPIDS ABB=ON  PLU=ON  L20 (S) ESTER?
L22          26 SEA FILE=WPIDS ABB=ON  PLU=ON  L18 OR L21


=> d .wp 1-26 l22

L22  ANSWER 1 OF 26  WPIDS (C) 2003 THOMSON DERWENT
AN   2003-381417 [36]   WPIDS
DNC  C2003-101175
TI   Drug formulation useful for gastrointestinal deposition comprises several
     non-compressed free flowing particles comprising a core coated with a
     functional coating and containing a drug with a specified mean diameter
     and an excipient.
DC   A96 B07
IN   SIMPSON, D B B; STANIFORTH, J; TOBYN, M
PA   (VECT-N) VECTURA LTD
CYC  100
PI   WO 2003020241 A2 20030313 (200336)* EN  107p
        RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU
            MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
            KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
            RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
            ZW
ADT  WO 2003020241 A2 WO 2002-IB4101 20020905
PRAI US 2001-317522P  20010905
AB   WO2003020241 A UPAB: 20030609
     NOVELTY - A drug formulation (F1) comprises several non-compressed free
     flowing particles comprising a core and containing a drug (D1) (preferably
     chlorpheniramine or its salt) and an excipient. The core is coated with a
     functional coating. At least 40 % of the drug particles have a mean
     diameter of greater than 10 micro m to 1 mm (preferably 50 micro m).
          DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the
     following:
          (1) a drug delivery system comprising a dosing device containing a
     housing and an actuator. The device contains at least one unit dose of
     (F1). The device delivers a unit dose of (F1) in such a manner that the
     dose does not reach the lower lung of a human patient;
          (2) a drug delivery system comprising a multiple unit dosing device
     comprising a housing and an actuator. The device contains either multiple
     unit doses of (F1) or at least one unit dose of (F1). For the at least one
     unit dose of (F1), the drug particles have a diameter of greater than 10
     mu m - 1 mm. The device delivers the two respective doses of (F1) in such
     a manner that the doses do not reach the lower lung of a human patient;
          (3) a method of administering a drug to a human patient for
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gastrointestinal deposition involving formulating (F1), containing (F1) in a drug delivery device, which delivers multiple unit doses of the multi-particulates of the drug into the oral cavity and administering a unit dose of the multi-particulates to the oral cavity, where greater than 80 % of the unit dose is deposited in the gastrointestinal tract;

(4) preparing a drug delivery system for delivering multiple doses of a drug for gastrointestinal deposition involving preparing (F1) and placing multiple unit doses of (F1) in a device which meters unit dose for delivery;

(5) preparing (m1) a multi-particulate drug formulation for gastrointestinal deposition involving (a) preparing several non-compressed free flowing particles comprising a core containing (D1) and the excipient, and (b) over coating the core with a coating which minimizes water coalescence on the surface of the drug particles and static charge between the particles;

(6) preparing (m2) a multi-particulate drug formulation for gastrointestinal deposition involving step (a), air jet sieving the particles to separate the cores from fine particles, and over coating the core with a functional coating;

(7) preparing (m3) a multi-particulate drug formulation with improved weight uniformity for gastrointestinal deposition involving step (a) and over coating the core with a functional coating;

(8) preparing (m4) a multi-particulate drug formulation for gastrointestinal deposition with minimal change in cohesiveness in response to humidity change involving step (a) and overcoating the core with a functional coating such that the cohesiveness of the particles does not change over a humidity gradient of 10 - 90 (20 - 80, especially 40 - 60) % relative humidity;

(9) a controlled release formulation (A1) comprising a drug (D2) and a lacquer agent to provide a controlled release of (D2).

ACTIVITY - None given

MECHANISM OF ACTION - None given.

USE - For gastrointestinal deposition (claimed).

ADVANTAGE - The excipient and the functional coat provide a controlled release of (D1) upon gastrointestinal deposition to provide a therapeutic effect for at least 12 (preferably 24) hours after oral administration; and a delayed release of (D1) upon gastrointestinal deposition to effect intestinal absorption. The excipient and the functional coat provide tastemasking. The functional coating minimizes asperities on the surface of the drug particles, is resistant to chip coating and provides pliability to the drug particles. Thus the resulting formulations are high load multiparticulate formulations with minimal use of excipient, have improved weight variability, from dose to dose and batch to batch, have minimal change in cohesiveness in response to humidity change, have minimal potential for water coalescence on the surface of the drug particles, have minimal static chare between the particles, increased flowability and decreased bridging, and provide a controlled or delayed release of the drug particles. The formulations have a desired particle range in order to minimize pulmonary aspiration of the particles and to improve the functionality of the formulations in the multiple unit dosing devices, which deliver a unit dose of the formulations for oral administration or delivery upon actuation. The formulations show improved performance and aid patient compliance. The formulations facilitate delivery of a wide range of therapeutic agents and minimize pulmonary deposition of materials having undesirable or unknown pulmonary toxicology but which are approved for oral delivery.

Dwg.3/13

TECH UPTX: 20030609

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Formulation: In (F1), the core comprises (D1) coated with the excipient, which in turn is

over-coated with the functional coat. (D1) is interdispersed in the excipient, which is wet or melt granulated. Particularly (D1) and the first portion of the excipient are wet granulated and the resultant wet granulated particles are melt granulated with a second portion of the excipient. The first and the second portion of the excipient are made from same or different materials. The functional coated particles are melt granulated with the excipient. Difference between film forming temperature of the melt granulating excipient and the film forming temperature of the functional coat is more than 15 (preferably more than 20, especially more than 25) degrees C. In (A1), the lacquer agent is at least partially inter-dispersed with (D2) or the lacquer agent is coated onto (D2). (A1) is in multi-particulate form or is a tablet. The excipient and the functional coat comprise a salivary stimulant. Greater than 90 (preferably 95, especially 99) % of the particles of (D1) have a diameter of greater than 10 (preferably greater than 50) micro m.

Preferred Method: In (m2), the fine particles are less than 50 (preferably less than 25, especially less than 10) micro m. In (m1) - (m4), the particles of (D1) have a mean diameter of greater than 10 micro m - 1 mm (preferably 50 - 500 micro m) and comprise at least 50, 60, 70 or at least 80 % of (D1). The method (m2) additionally involves filtering the particles prior to air jet sieving to remove particles greater than 500 (preferably 750) micro m or greater than 1 mm and placing several multi-particles in a dosing device capable of metering a unit dose of the formulation for oral delivery. The methods (m1) - (m4) involve preparing the particles with a coloring agent, which minimizes weakening of the adhesion of the overcoat to the core.

TECHNOLOGY FOCUS - POLYMERS - Preferred Components: The excipient and the functional coat comprise a tastemasking material, moisture barrier, a texture modifier and a delayed release material. The functional coat comprises a chip resistant coating and a pliable coating. The melt granulating excipient is beeswax, white wax, emulsifying wax, an **ester** of wax acid, carnauba wax and/or polyethylene glycol. The controlled release excipient is a hydrophobic or cellulosic material. The hydrophobic material is an acrylic polymer, a cellulosic material, shellac and/or zein (preferably acrylic polymer). The acrylic polymer is acrylic acid and methacrylic acid copolymer, methyl methacrylic copolymer, ethoxyethyl methacrylate, cyanoethyl methacrylate, aminoalkyl methacrylate copolymer, poly(acrylic acid), poly(methacrylic acid, methacrylic acid alkylamide copolymer, poly(methyl methacrylate), poly(methacrylic **acid**) (**anhydride**), methyl methacrylate, polymethacrylate, methyl methacrylate copolymer), polyacrylamide, poly(methacrylic **acid anhydride**) and/or glycidyl methacrylate copolymer. The cellulosic material is a **cellulose ester**, **cellulose** diester, **cellulose** triester, **cellulose** ether, **cellulose-ester**-ether, **cellulose acylate**, **cellulose** diacylate, **cellulose** triacylate, **cellulose** acetate, **cellulose** diacetate, **cellulose** triacetate, **cellulose** acetate propionate and/or **cellulose** acetate butyrate. The delayed release material is an enteric polymer selected from methacrylic acid polymer, **cellulose** acetate phthalate, hydroxypropyl methylcellulose phthalate, hydroxypropyl methylcellulose acetate succinate, polyvinyl acetate phthalate, **cellulose** acetate trimellitate and/or carboxymethylethylcellulose. The moisture barrier material and the texture modifier are selected from acacia gum, acrylic acid polymer and copolymer (including polyacrylamide, polyacryldextran, polyalkyl cyanoacrylate or polymethyl methacrylate), agar-agar, agarose, albumin, alginic acid and alginate, carboxyvinyl polymer, **cellulose** derivative (such as **cellulose** acetate), polyamide (including nylon 6-10, poly(adipyl-L-lysine,

polyterephthalamide or poly-(terephthaloyl-L-lysine)), poly-epsilon-caprolactam, polydimethylsiloxane, polyester, poly(ethylene-vinyl acetate), polyglycolic acid, polylactic acid and its copolymer, polyglutamic acid, polylysine, polystyrene, shellac, xanthan gum, anionic polymer of methacrylic acid and methacrylic acid **ester** and/or hydroxyalkylcellulose. The hydroxyalkylcellulose for moisture barrier material is hydroxypropylmethylcellulose. The chip resistant coating comprises a material selected from acacia gum, alginic acid and alginate, carboxymethylcellulose, ethylcellulose, gelatine, hydroxypropylcellulose, hydroxypropylmethylcellulose, methylcellulose, xanthan gum, pectin, tragacanth, microcrystalline **cellulose**, hydroxyethylcellulose, ethylhydroxyethylcellulose, sodium carboxymethylcellulose, polyethylene glycol, polyvinylpyrrolidone, polyvinyl alcohol, polyacrylic acid, gum arabic, vinylpyrrolidone-vinyl acetate copolymer, methylhydroxyethylcellulose, agar-agar, carrageenan, karaya gum, starch hydrolysate and/or chitosan. (A1) additionally comprises a channeling agent selected from polyvinylpyrrolidone and/or polyethyleneglycol. The overcoat in (m1) - (m4) comprises a plasticizer, while the overcoat in (m2) comprises a conductive polymer. The particulates have a mean rugosity of 1 - 15.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The melt granulating excipient is hydrogenated vegetable oil, cetyl alcohol, stearyl alcohol, stearic acid, propylene glycol monostearate, glyceryl monostearate, glyceryl palmitostearate and/or glyceryl behenate. The taste masking material is selected from water-soluble sweetening agents, water-soluble artificial sweeteners and/or dipeptide based sweeteners. The water-soluble sweetening agent is monosaccharide, disaccharide or polysaccharide (selected from xylose, ribose, glucose, mannose, galactose, fructose, dextrose, sucrose, maltose, partially hydrolyzed starch or corn syrup solid and sugar alcohol). The sugar alcohol is sorbitol, xylitol and/or mannitol. The water-soluble artificial sweetener is soluble saccharin salt (selected from sodium or calcium saccharin salt), cyclamate salt, acesulfam-K, and/or free acid form of saccharin. The dipeptide based sweetener is L-aspartyl L-phenylalanine methyl ester. The salivary stimulant is citric acid, tartaric acid, malic acid, fumaric acid, adipic acid or succinic acid, its **acid anhydride** and/or acid salt. The chip resistant coating comprises a material selected from lactose, starch (wheat, maize, potato or rice starch), sucrose, glucose, mannitol, sorbitol, xylitol, stearic acid, hydrogenated cottonseed oil, hydrogenated castor oil and/or fructose. The pliable coating comprises a plasticizer selected from dibutyl sebacate, diethyl phthalate, triethyl citrate, tributyl citrate and/or triacetin. (A1) additionally comprises a channeling agent selected from dextrose, sucrose, mannitol, xylitol and/or lactose. The lacquer agent is selected form corn oil, cottonseed oil, menhaden oil, pine oil, peanut oil, safflower oil, sesame oil, soybean oil, and/or linseed oil; fatty acid of 8-20C oil (preferably optionally saturated glyceride); branched or polycarboxylated oil (selected from linoleic acid, linolenic acid and/or oleic acid); caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, margaric acid, stearic acid, arachidic acid, behenic acid and/or lignoceric acid. In (m1) - (m4), the coloring agent optionally comprises an opacifier and/or a lake.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Components: (A1) additionally comprises a dispersing agent selected from colloidal silicone dioxide, talc, kaolin, silicone dioxide, colloidal calcium carbonate, bentonite, Fuller's earth and/or magnesium aluminum silicate.

L22 ANSWER 2 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2003-093292 [08] WPIDS
DNC C2003-023535

TI New process for the production of 1,2-diacylated glycerophospholipids and their analogues, comprises using phospholipase enzyme to catalyze reaction between glycerophospholipid and carboxylic acid acyl donor in a microaqueous environment.

DC B07 D13 D16 D21 E11

IN BASHEER, S; MAR-CHAIM, N; SHULMAN, A; ZUABI, R

PA (ENZY-N) ENZYMOTEC LTD

CYC 100

PI WO 2002090560 A2 20021114 (200308)* EN 50p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

ADT WO 2002090560 A2 WO 2002-IL344 20020502

PRAI IL 2001-142952 20010503

AB WO 200290560 A UPAB: 20030204
NOVELTY - New process for the production of 1,2-diacylated-glycerophospholipids (A1) and their synthetic or natural analogues comprises contacting a glycerophospholipid (i) with a carboxylic acid acyl donor (ii) in a microaqueous environment in the presence of a phosholipase enzyme catalyzing an esterification/transesterification/**acylation** at sn-1 and sn-2 positions of (i).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a process for the production of 1-**acylated**-2-lyso-glycerophospholipids (A2) and their synthetic or natural analogues comprising contacting (i) with (ii) in a microaqueous environment in the presence of an enzyme capable of catalyzing an **acylation** at the sn-1 position of (i), in the presence of an organic solvent.

USE - For preparation of 1,2-diacylated-glycerophospholipids (claimed).

ADVANTAGE - The conversion yield of the glycerophospholipid to 1,2-diacyl-glycerophospholipid is at least 20%. The method is a one-step process providing economical benefits. The 1,2-diacyl-glycerophospholipids are obtainable in high purity and carry identical desired fatty acyl groups at sn-1 and sn-2 positions. Immobilization of the enzyme facilitates the activity.

Dwg.0/3

TECH UPTX: 20030204
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: (i) is selected from glycerophosphoryl choline (GPC) or its derivatives, where the choline moiety is replaced by ethanolamine, serine or an alcohol (preferably inositol or glycerol).
(ii) is a fatty acid acyl donor, which is optionally saturated, short-, medium- or long-chained linear or branched fatty acid derivative (preferably free fatty acid, fatty acid chloride, fatty acid alkyl ester, fatty acid vinyl ester or fatty **acid anhydride**).
The phospholipase enzyme is optionally immobilized on an insoluble matrix and is optionally surfactant-coated.
The 1- and 2-acyl groups of (A1) are identical and predetermined.
The optionally surfactant-coated phospholipase is physically, ionically or covalently bound to the insoluble matrix.
The insoluble matrix is an adsorbent or an activated insoluble matrix (preferably aluminum stearate or charcoal).
The surfactant is a sugar alkyl ester or fatty acid ester (preferably sorbitan monolaurate, sorbitan monomyristate, sorbitan monopalmitate or sorbitan monostearate).
The phospholipase enzyme is phospholipase A1.

(A2) is 1-lauryl-2-lyso-glycerophospholipid.
(A3) is 1-stearoyl-2-lyso glycerophospholipid or 1-palmetto-2-lyso glycerophospholipids
Preferred Method: 1-Monoacyl-2-lyso-glycerophospholipid (A3) is formed when an organic solvent (preferably tert-butanol) is used.

TECHNOLOGY FOCUS - POLYMERS - Preferred Components: The insoluble matrix is an ion-exchange resin, such as Dowex 22 (RTM), Dowex 1x2-400 (RTM), Dowex 2x8-100 (RTM), **cellulose** phosphate, Amberlite IRA-95 (RTM), Amberlite IRA-200 (RTM), Amberlite IRA-900 (RTM), Amberlite XAD-7 (RTM), Amberlite XAD-16 (RTM), Diannon SA-10A (RTM), Ectola (RTM; **cellulose**), Sephadex (RTM) or sulfoxyethylcellulose.
The surfactant for coating the enzyme is a polyol fatty acid **ester** or polyol alkyl ether.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Components: The insoluble matrix is selected from celite, alumina, silica gel, calcium carbonate or calcium sulfate.

TECHNOLOGY FOCUS - BIOLOGY - Preferred Enzyme: The enzyme is derived from Aspergillus (strain SANK 11870).

L22 ANSWER 3 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2003-078572 [08] WPIDS
DNN N2003-061082 DNC C2003-020585
TI **Cellulose acylate** film is formed by subjecting **cellulose acylate** support of waste photosensitive material to peroxide process and **oxidation** process and dissolving recovered film in non-chlorine group organic solvent.
DC A11 A89 G06 P81 P83 S06
PA (FUJF) FUJI PHOTO FILM CO LTD
CYC 1
PI JP 2002187959 A 20020705 (200308)* 15p
ADT JP 2002187959 A JP 2000-386537 20001220
PRAI JP 2000-386537 20001220
AB JP2002187959 A UPAB: 20030204
NOVELTY - A waste material of silver halide photosensitive material which has a **cellulose acylate** film as support, is taken as raw material. The **cellulose acylate** film is recovered by peroxide process using an aqueous solution of peroxide and halogen **oxidation** process using an alkaline water solution of **oxidized** halogen compound. The recovered film is dissolved in a non-chlorine group organic solvent.
USE - For use as protective layer of optical material and support of silver halide photosensitive material.
ADVANTAGE - The cellulose acylate film is effectively recovered from used photosensitive materials, thus reducing environmental pollution. Effective utilization of waste material is enabled.
Dwg.0/0
TECH UPTX: 20030204
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: The cellulose acylate film solution, is then cooled and dissolved at -100 degrees C to -10 degrees C, or heated and dissolved at 70-200 degrees C and 0.3-30 MPa. To 100 mass parts of recovered cellulose acylate, 100-1900 mass parts of new cellulose acylate is mixed. The cellulose acylate solution seals 5-50 mass % of carbon dioxide before heating to 70-200 degrees C and 0.3-30 MPa. 0.001-2 mass % fluorine group surfactant, 0.002-2 mass % of mold releasing agent, 0.001-5 mass % microparticle powder, 0.001-5 mass% ultraviolet absorber or 0.1-20 mass % plasticizer, are added to cellulose acylate. The cellulose acylate film has thickness of 30-250 mum,

preferably 10-200 mum.
Preferred Compounds: The organic solvent is 3-12C ketone, 2-12C ether and/or 2-12C ester. The cellulose acylate solution contains 1-15 mass% of 1-4C alcohol.

L22 ANSWER 4 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-730962 [79] WPIDS
DNC C2002-207040
TI New **biodegradable oxidized cellulose esters** for use as film-forming agents and drug carriers.
DC A11 A96 B04 D22
IN DONG, Y; KUMAR, V
PA (DONG-I) DONG Y; (KUMA-I) KUMAR V; (IOWA) UNIV IOWA RES FOUND
CYC 95
PI US 2002086990 A1 20020704 (200279)* 9p
WO 2002053599 A2 20020711 (200279) EN
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
ADT US 2002086990 A1 Provisional US 2000-259038P 20001229, US 2001-7866 20011206; WO 2002053599 A2 WO 2001-US50108 20011221
PRAI US 2000-259038P 20001229; US 2001-7866 20011206
AB US2002086990 A UPAB: 20021209
NOVELTY - **Biodegradable, oxidized cellulose ester** is new.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for making an oxidized **cellulose ester** comprising:
oxidized **cellulose** containing at least 3 wt.% carboxylic content
to form an oxidized **cellulose ester**.
USE - The **oxidized cellulose esters** are for use as film-forming agents, drug carriers, to form monolithic transparent films or **biodegradable** coatings. They can also be used as an immobilizing matrix in the development of **biodegradable** controlled and/or sustained release pharmaceutical, agricultural and veterinary compositions.
ADVANTAGE - The **oxidized cellulose esters** are not only soluble in aqueous alkaline solutions but dissolve in water an/or organic solvents, depending on the nature of the **ester** moiety and degree of substitution. They are less expensive to produce than some of the most commonly and widely used **biodegradable** polymers.
Dwg.0/0
TECH UPTX: 20021209
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred **ester**: The **oxidized cellulose ester** has a 3 wt.% carboxylic content, is dried and is soluble in water, ketones, **esters**, glycol **esters**, glycol ether acetates, alcohols, **methylene chloride**, halogenated solvents and aprotic solvents selected from **DMSO**, **DMA**, **DMF** and n-methyl-2-pyrrolidone. The **oxidized cellulose ester** is of formula (I) or (II).
X = H, Na, K, Ca, NH4 or NEt3H;
R = H, CF3, (CH2)nCH3 where n = 1-8, (CH2)nCOOH, CY=CZCOOH (where Y and Z are H, Me 1-20C branched alkyl with 1-3 double bonds, 1-20C branched alkenyl with 1-3 double bonds) CY=CH2 (where Y is H, Me or Ph), CH=CHY (where Y is Ph), CH=CYCOOH (where Y is H or Me), (CH2)8CH=CH(CH2)8Me or C6H(2-6)(COOH)0-4, CH2CH(COOH)CH2-COOH;

w = 0.1-1.0;
x = 0.1-2.0;
n = 30-1500.
Preferred Process: The (sic) **acylating** step comprises reacting the **oxidized cellulose** with an organic acid and optionally an anhydride. **Acylation** is in the presence of an acid catalyst selected from sulfuric, o-phosphoric or **perchloric acid** or **zinc chloride** solution. It also takes place in the presence of **DMSO**, **DMF**, **DMA** and **dioxane**. The process further comprises soaking the **oxidized cellulose** with a swelling agent (prior to **acylation**) for 5-120 (preferably 30-60) minutes. The swelling agent is selected from **phosphoric acid**, isopropyl alcohol, aqueous **zinc chloride** solution, water and an amine. The **acylating** step comprises reacting the **oxidized cellulose** with an organic acid chloride (preferably a 1-20C organic acid chloride) in an organic solvent and a base catalyst (selected from pyridines, alkylpyridines, trialkylamines and sodium carbonate). **Acylating** step takes place for 0.5-12 hours. The process involves filtering the **oxidized cellulose ester**, washing the **oxidized cellulose ester** to pH 6-8 and drying it. Preparation: The **oxidized cellulose esters** can be prepared by treating **oxidized cellulose** with an excess of an organic acid chloride or organic **acid anhydride** solvent.

L22 ANSWER 5 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-561211 [60] WPIDS
DNN N2002-444391 DNC C2002-159528
TI **Cellulose acylate** solution for producing **cellulose acylate** film, is obtained by dissolving **cellulose acylate** in mixed solvent of ketone and **ester** which do not contain chlorine group.
DC A11 A89 G06 P81
PA (FUJF) FUJI PHOTO FILM CO LTD
CYC 1
PI JP 2002146098 A 20020522 (200260)* 12p
ADT JP 2002146098 A JP 2000-346218 20001114
PRAI JP 2000-346218 20001114
AB JP2002146098 A UPAB: 20020919
NOVELTY - A **cellulose acylate** solution is obtained by dissolving a **cellulose acylate** in a mixed solvent of ketone and **ester** which do not contain a chlorine group solvent.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for the cellulose **acylate** film which is produced from the cellulose **acylate** solution.
USE - For producing cellulose **acylate** film (claimed).
ADVANTAGE - The cellulose **acylate** solution has excellent time-dependent stability without using a chlorine group solvent like **methylene chloride**. The film has improved mechanical property, optical property and film surface.
Dwg.0/0
TECH UPTX: 20020919
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Compounds: The **ester** having 2- 12 carbon number is selected from methyl formate, ethyl formate, methyl acetate, ethyl acetate, gamma-butyrolactone and methyl acetolactone. The ketone has 3-12 carbon number and is chosen from acetone, methyl ethyl ketone, cyclohexanone, cyclopentanone and methyl acetoacetate. Preferred Composition: The mixed solvent further contains 2-40 mass% of univalent alcohol which is an 1-6C aliphatic alcohol. Silica

particle, a plasticizer and an ultraviolet absorber are added to the **cellulose acylate** film.

L22 ANSWER 6 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-547520 [58] WPIDS
DNC C2002-155211
TI **Cellulose acylate** solution for preparing a film for optical materials comprises a **cellulose acylate** dissolved in a chlorine-free solvent which is a mixed solvent comprising a ketone and **ester**.
DC A11 A89 P81 P83
IN MUKUNOKI, Y; YAMADA, T
PA (FUJF) FUJI PHOTO FILM CO LTD
CYC 97
PI WO 2002038666 A1 20020516 (200258)* JA 47p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
JP 2002146043 A 20020522 (200258) 23p
JP 2002179838 A 20020626 (200258) 12p
JP 2002187149 A 20020702 (200258) 12p
AU 2002012748 A 20020521 (200260)
ADT WO 2002038666 A1 WO 2001-JP9827 20011109; JP 2002146043 A JP 2000-341414 20001109; JP 2002179838 A JP 2000-377310 20001212; JP 2002187149 A JP 2000-386538 20001220; AU 2002012748 A AU 2002-12748 20011109
FDT AU 2002012748 A Based on WO 200238666
PRAI JP 2000-386538 20001220; JP 2000-341414 20001109; JP 2000-377310 20001212
AB WO 200238666 A UPAB: 20020910
NOVELTY - A **cellulose acylate** solution comprises a **cellulose acylate** dissolved in a chlorine-free solvent which is a mixed solvent comprising a ketone and **ester**.
DETAILED DESCRIPTION - The ketone has a solubility parameter of 19 - 21. The **ester** has a solubility parameter of 19 - 21. The **cellulose acylate** solution contains a release agent.
USE - The cellulose **acylate** film made from the solution is for use for optical materials such as protection films for polarization plates and color filters.
ADVANTAGE - The cellulose **acylate** film has excellent physical strength and flame-retardancy.
Dwg.0/0
TECH UPTX: 20020910
TECHNOLOGY FOCUS - POLYMERS - Preferred solution : The Cl-free solvent contains 2 - 30 wt% of alcohol. The ketone is CH3COCH3, CH3COC2H5, cyclopentanone or cyclohexanone, the **ester** is HCOOCH3, HCOOC2H5 or CH3COOCH3, and the alcohol is a 1-6C alcohol. The release agent is an acid, an alkali salt or alkali earth salt having an acidic dissociation number of 4.50 or lower. The acid is a carboxylic acid, sulfonic acid or **phosphoric acid**, and is HCOOH, halo-acetic acid, halo-propionic acid, acrylic acid, malonic acid, succinic acid, glutanic acid, fumalic acid, glucolic acid, lactic acid, maleinic acid, tartaric acid or citric acid. The acidic dissociation number of the solution of 1.93 - 4.50. Preferred release agent : The amount of the release agent contained in the solution is 1 x 10-9 - 3 x 10-5 mol per 1g of celluloseacylate. The release agent is represented by general formula (1) or (2).
(R1-B1-O)n1- P(=O)-(OM1)n2 (1)

R2-B2-X (2)
R1, R2 = 4-40Calkyl, alkenyl, aralkyl or aryl group ;
M1 = alkyl metal, ammonia or lower alkyl amine ;
B1, B2 = divalent bond ;
X = carboxylic acid or its salt, sulfonic acid or its salt, sulfate **ester** or its salt ;
n1 = 1 or 2 ;
n2 = 3 - n1
The **cellulose acylation** solution contains 0.001 - 2 wt% of the compound represented by (1) or (2). Preferred process : The **cellulose acylate** is dissolved in the Cl-free mixture solution at (-80) - (-10) degreesC or 80 - 220 degreesC. The film is produced by forming two or more layers of the **cellulose acylate** solutions, and the **cellulose** solution for forming the outermost layer has the same as or lower than that for forming the inside layer. The concentration of the solution forming the outermost layer is 0.99 - 0.80 that of the inside layer.

L22 ANSWER 7 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-037634 [05] WPIDS
DNC C2002-010907
TI **Acylation** of **cellulose** used for manufacturing **cellulose ester**, involves absorbing **acylating** agent into **cellulose** followed by grinding the obtained **cellulose** using a grinding medium.
DC A11 F09
PA (KEIZ-N) KEIZAI SANGYOSHO SANGYO GIJUTSU SOGO KEN
CYC 1
PI JP 2001261701 A 20010926 (200205)* 6p
JP 3281921 B2 20020513 (200234) 6p
ADT JP 2001261701 A JP 2000-82071 20000323; JP 3281921 B2 JP 2000-82071 20000323
FDT JP 3281921 B2 Previous Publ. JP 2001261701
PRAI JP 2000-82071 20000323
AB JP2001261701 A UPAB: 20020123
NOVELTY - An **acylating** agent is absorbed into cellulose, and the obtained cellulose is ground in a grinding medium.
USE - Used for manufacturing partial or complete **cellulose esters**, such as **cellulose** acetate used for photographic films, acetate rayon, **cellulose** lacquer and plastic material.
ADVANTAGE - The **acylated** cellulose comprising high acyl amount is manufactured easily and inexpensively in a short period of time. The reaction product obtained is refined easily. The use of catalyst for **acylation** of cellulose is eliminated, thereby the need of separation of the catalyst is eliminated.
Dwg.0/10
TECH UPTX: 20020123
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred **Acylating** Agent: The **acylating** agent is lower fatty **acid anhydride** or a mixture of lower fatty **acid anhydride** and lower fatty acid. The mixture of lower fatty **acid anhydride** and lower fatty acid is acetic acid and acetic anhydride in a weight ratio of 30:70 or 20:80.

L22 ANSWER 8 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-112499 [12] WPIDS
CR 2001-091751 [10]
DNC C2001-033517
TI Method for controlling the flux of penetrants across an adaptable semi-permeable barrier is useful for administering an agent to a mammalian

body or a plant and for generating an immune response by vaccinating the mammal.

DC A18 A28 A96 B05 B07 D16 D22

IN CEVC, G; RICHARDSEN, H; WEILAND-WAIBEL, A; WEILAND-WEIBEL, A

PA (IDEA-N) IDEA AG; (CEVC-I) CEVC G; (RICH-I) RICHARDSEN H; (WEIL-I) WEILAND-WAIBEL A

CYC 95

PI WO 2001001963 A1 20010111 (200112)* EN 110p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000061557 A 20010122 (200125)
BR 2000012178 A 20020312 (200226)
EP 1189598 A1 20020327 (200229) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
CZ 2002000038 A3 20020515 (200241)
CN 1359288 A 20020717 (200268)
HU 2002001454 A2 20021228 (200308)
JP 2003503442 W 20030128 (200309) 109p
US 2003099694 A1 20030529 (200337)

ADT WO 2001001963 A1 WO 2000-EP6367 20000705; AU 2000061557 A AU 2000-61557 20000705; BR 2000012178 A BR 2000-12178 20000705, WO 2000-EP6367 20000705; EP 1189598 A1 EP 2000-947939 20000705, WO 2000-EP6367 20000705; CZ 2002000038 A3 WO 2000-EP6367 20000705, CZ 2002-38 20000705; CN 1359288 A CN 2000-809916 20000705; HU 2002001454 A2 WO 2000-EP6367 20000705, HU 2002-1454 20000705; JP 2003503442 W WO 2000-EP6367 20000705, JP 2001-507458 20000705; US 2003099694 A1 Cont of WO 2000-EP6367 20000705, US 2002-37480 20020104

FDT AU 2000061557 A Based on WO 200101963; BR 2000012178 A Based on WO 200101963; EP 1189598 A1 Based on WO 200101963; CZ 2002000038 A3 Based on WO 200101963; HU 2002001454 A2 Based on WO 200101963; JP 2003503442 W Based on WO 200101963

PRAI WO 1999-EP4659 19990705

AB WO 200101963 A UPAB: 20030612

NOVELTY - A method for controlling the flux of penetrants across an adaptable semi-permeable porous barrier is new.

DETAILED DESCRIPTION - A method for controlling the flux of penetrants across an adaptable semi-permeable membrane comprises suspending the penetrants in a polar liquid in the form of fluid droplets surrounds by a membrane-like coating comprising at least two kinds of amphiphilic substances with a tendency to aggregate, selecting a dose of the penetrants to control the flux of the penetrants across the barrier and applying the selected dose of the formulation onto the area of the barrier. The amphiphilic substances differ by a factor of at least 10 in solubility in the polar liquid and the homo-aggregates of the more soluble substance and hetero-aggregates have a preferred average diameter smaller than the diameter of the homo-aggregates of the less soluble substance. The more soluble substance tends to solubilize the droplet and comprises up to 99% of the solubilizing concentration or saturating concentration in the unstabilized droplet. The presence of the more soluble substance lowers the average elastic energy of the coating by at least 5 times preferably more than 10 times the average elastic energy of red blood cells or of phospholipid bilayers with fluid aliphatic chains. The penetrants are able to transport agents through the pores of the barrier or enable agent permeation through the pores after the penetrants have entered the pores.

INDEPENDENT CLAIMS are included for:
(i) a kit containing the formulation;
(ii) a patch containing the formulation; and
(iii) a method of administering an agent to a mammalian body or plant comprising the novel method.

USE - The method is useful for administering an agent to a mammalian body or a plant, for generating an immune response by vaccinating the mammal and for treating inflammatory disease, dermatosis, kidney or liver failure, adrenal insufficiency, aspiration syndrome, Behcet syndrome, bites and stings, blood disorders (cold-hemagglutinin disease), hemolytic anaemia, hypereosinophilic, hypoplastic anaemia, macroglobulinaemia and thrombocytopenic purpura), bone disorders, cerebral oedema, Cogan's syndrome, congenital adrenal hyperplasia, connective tissue disorders (lichen, lupus erythematosus, polymyalgia rheumatica, polymyositis and dermatomyositis), epilepsy, eye disorders (cataracts), Graves' ophthalmopathy, hemangioma, herpes infections, neuropathies, retinal vasculitis, scleritis, gastro-intestinal disorders (inflammatory bowel disease, nausea and oesophageal damage), hypercalcaemia, infections, Kawasaki disease, myasthenia gravis, pain syndromes, polyneuropathies, pancreatitis, respiratory disorders (asthma), rheumatoid disease, osteoarthritis, rhinitis, sarcoidosis, skin diseases, alopecia, eczema, erythema multiforme, lichen, pemphigus and pemphigoid, psoriasis, pyoderma gangrenosum, urticaria and thyroid and vascular disorders.

ADVANTAGE - Increasing the applied dose above a threshold level affects both the drug/penetrant distribution and also determines the rate of penetrant transport across the barrier.

Dwg.0/14

TECH UPTX: 20010302

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: The flux is increased by enlarging the applied dose per area of the penetrants and the pH of the composition is preferably 3 to 10, especially 5 to 8. The formulation preferably comprises a thickening agent to raise the viscosity to maximally 5 Nm/s, especially 0.2Nm/s, an antioxidant to reduce the increase of **oxidation** index to less than 100% per 6 months, preferably 50% per 12 months and/or a microbicide to reduce the bacterial count after 4 days, preferably after 1 day, to less than 100/g for aerobic bacteria, less than 10 for entero-bacteria and less than 1 for Pseudomonas aeruginosa or Staphylococcus aureus. At least one microbicide is added in an amount that reduces the bacterial count of 1 million germs added per gram of total mass of the formulation after a period of 3 days and preferably after a period of 1 day. The thickening agent is selected from the class of pharmaceutically acceptable hydrophilic polymers, such as partially etherified **cellulose** derivatives, like carboxymethyl-, hydroxyethyl-, hydroxypropyl-, hydroxypropylmethyl- or methyl-**cellulose**; completely synthetic hydrophilic polymers such as polyacrylates , polymethacrylates, poly(hydroxyethyl)-, poly(hydroxypropyl)-, poly(hydroxypropylmethyl)methacrylates, polyacrylonitriles, methallyl-sulfonates, polyethylenes, polyoxyethylenes, polyethylene glycols, polyethylene glycol-lactides, polyethylene glycol-diacrylates, polyvinylpyrrolidones, polyvinyl alcohols, poly(propyimethacryimnides), poly(propylene fumarate-co-ethylene glycols), poloxamers, polyaspartamides, (hydrazine cross-linked) hyaluronic acids, silicones; natural gums comprising alginates, carrageenans, guar-gums, gelatins, tragacanths, (amidated) pectins, xanthans, chitosan collagens, agaroses; mixtures and further derivatives or co-polymers of them and / or other pharmaceutically, or at least biologically, acceptable polymers. The concentration of the polymer is in the range between 0.01 w- % and 10 w- %, more preferably in the range between 0. 1 w- % and 5 w- %, even more preferably in the range between 0.25 w- % and 3.5 w- % and most preferably in the range between 0.5 w- % and 2 w- %. The anti-**oxidant** is

selected from synthetic phenolic anti-**oxidants**, such as butylated hydroxyanisol (BHA), butylated hydroxytoluene (BHT) and di-tert-butylphenol (LY 178002, LY256548, HWA- 13 1, BF-389, Cl-986, PD- 127443, E-5 119, BI-L-239XX, etc.), tertiary butylhydroquinone (TBHQ), propyl gallate (PG), 1 -0-hexy)-2,3,5-trimethylhydroquinone (HTHQ); aromatic amines (such as diphenylamine, p-alkylthio-o-anisidine, ethylenediamine derivatives, carbazol, tetrahydroindenoindol); phenols and phenolic acids (such as gualacol, hydroquinone, vanillin, gallic acids and their esters, protocatechuic acid, quinic acid, syringic acid, ellagic acid, salicylic acid, nordihydroguaiaretic acid (NDGA), eugenol; tocophenols (including tocophenols (alpha, beta, gamma, delta) and their derivatives, such as tocopheryl-**acylate** (e.g. -acetate, -laurate, myristate, -palmitate, -oleate, Ainoleate, etc., or any other suitable tocopheryl-lipoate), tocopheryl-POE-succinate; trolox and corresponding amide- and thiocarboxamide analogues; ascorbic acid and its salts, isoascorbate, (2 or 3 or 6)-o-alkylascorbic acids, ascorbyl esters (e.g. 6-o-lauroyl, myristoyl, paimitoyl-, oleoyl, or linoleoyi-L-ascorbic acid, etc.); non-steroidal anti-inflammatory agents (NSAIDs), such as indomethacin, diclofenac, mefenamic acid, flufenamic acid, phenylbutazone, oxyphenbutazone acetylsalicylic acid, naproxen, diflunisal, ibuprofen, ketoprofen, piroxicam, penicillamine, penicillamine disulphide, primaquine, quinacrine, chloroquine, hydroxychloroquine, azathioprine, phenobarbital, acetaminephen); aminosalicylic acids and derivatives; methotrexate, probucol, antiarrhytiunics (e.g. amiodarone, aprindine, asocainol), ambroxol, tamoxifen, b-hydroxytamoxifen; calcium antagonists (such as nifedipine, nisoldipine, nimodipine, nicardipine, nilvadipine), beta-receptor blockers (e.g. atenolol, propranolol, nebivolol); sodium bisulphite, sodium metabisulphite, thiourea; chelating agents, such as EDTA, GDTA, desferral; endogenous defence systems, such as transferrin, lactoferrin, ferritin, cearuloplasmin, haptoglobion, haemopexin, albumin, glucose, ubiquinol- 10; enzymatic antioxidants, such as superoxide dismutase and metal complexes with a similar activity, including catalase, glutathione peroxidase, and less complex molecules, such as beta-carotene, bilirubin, uric acid; flavonoids (e.g. flavones, flavonols, flavonones, flavanonals, chacones, anthocyanins), N-acetylcystein, mesna, glutathione, thiohistidine derivatives, triazoles; tannines, cinnamic acid, hydroxycinnamatic acids and their esters (e.g. cournaric acids and esters, caffeic acid and their esters, ferulic acid, (iso-) chlorogenic acid, sinapic acid); spice extracts (e.g. from clove, cinnamon, sage, rosemary, mace, oregano, allspice, nutmeg); carnosic acid, camosol, carsolic acid; rosmarinic acid, rosmarindiphenol, gentisic acid, ferulic acid; oat flour extracts, such as avenanthramide 1 and 2; thioethers, dithioethers, sulphoxides, tetralkylthiurarn disulphides; phytic acid, steroid derivatives (e.g. U74006F); tryptophan metabolites (e.g. 3-hydroxykynurenine, 3-hydroxyanthranilic acid), and organochalcogenides, or else is an **oxidation** suppressing enzyme. The concentration of BHA or BHT is between 0.001 and 2 w-% and especially between 0.005 and 0.02 w-%; of TBHQ and PG is between 0.001 and 2 w-%, most preferably is between 0.01 and 0.02 w-%; of tocopherols is between 0.005 and 5 w-%, most preferably is between 0.05 and 0.075 w-%; of ascorbic acid esters is between 0.001 and 5, most preferably is between 0.01 and 0.15 w-%; of ascorbic acid is between 0.001 and 5, most preferably is between 0.0 1 and 0.1 w-% of sodium bisulphite or sodium metabisulphite is between 0.001 and 5, most preferably is between 0.0 1 -0.15 w-%; of thiourea is between 0.0001 and 2 w-% and most preferably is between 0.001-0.01 w-% most typically 0.005 w-%; of cystein is between 0.01 and 5, most typically 0.5

w-%; of monothioglycerol is between 0.01 and 5 w-%, most typically 0.5 w-%; of NDGA is between 0.0005-2 w-% most typically 0.01 w-%; of glutathione is between 0.005 and 5 w-%, most typically 0. 1 w-%; of EDTA is between 0.00 1 and 5 w-%, most typically between 0.05 and 0.975 w-%; of citric acid is between 0.001 and 5 w-%, most typically between 0.3 and 2 w-%.

The microbicide is selected from short chain alcohols, such as ethyl and isopropyl alcohol, chlorbutanol, benzyl alcohol, chlorbenzyl alcohol, dichlorbenzylalcohol; hexachlorophene; phenolic compounds, such as cresol, 4-chloro-m-cresol, p-chloro-m-xylenol, dichlorophene, hexachlorophene, povidon-iodine; parabens, especially alkyl-paraben, such as methyl-, ethyl-, propyl-, or butyl-paraben, benzyl-paraben; acids, such as sorbic acid, benzoic acid and its salts; quaternary ammonium compounds, such as alkonium salts, e.g. benzalkonium salts, especially the chlorides or bromides, cetrimonium salts, e.g. the bromide; phenoalkeciniurn salt, such as phenododecinium bromide, cetylpyridinium chloride or other such salts; mercurium compounds, such as phenyImercuric acetate, borate, or nitrate, thiomersal; chlorhexidine or its gluconate; antibiotically active compounds of biological origin, or a mixture of it.

The bulk concentration of short chain alcohols in the case of ethyl, propyl, butyl or benzyl alcohol is up to 10 w-%, most preferably is in the range between 0.3-3 w-% and in the case of chlorobutanol is in the range between 0.3-0.6 w-% bulk concentration of parabens, especially in the case of methyl paraben is in the range between 0.05-0.2 w-% and in the case of propyl paraben is in the range between 0.002-0.02 w-% bulk concentration of sorbic acid is in the range between 0 .05-0.2 w-% and in the case of benzoic acid is in the range between 0. 1 -0.5 w-% bulk concentration of phenols, triclosan, is in the range between 0. 1-0.3 w-% and bulk concentration of chlorhexidine is in the range between 0.01-0.05 w-%.

The bulk concentration of short chain alcohols in the case of ethyl, propyl, butyl or benzyl alcohol is up to 10 w-%, most preferably is in the range between 0.3-3 w-% and in the case of chlorobutanol is in the range between 0.3-0.6 w-% bulk concentration of parabens, especially in the case of methyl paraben is in the range between 0.05-0.2 w-% and in the case of propyl paraben is in the range between 0.002-0.02 w-% bulk concentration of sorbic acid is in the range between 0 .05-0.2 w-% and in the case of benzoic acid is in the range between 0. 1 -0.5 w-% bulk concentration of phenols, triclosan, is in the range between 0. 1-0.3 w-% and bulk concentration of chlorhexidine is in the range between 0.01-0.05 w-%.

The less soluble amongst the aggregating substances is a lipid or lipid-like material, especially a polar lipid, whereas the substance which is more soluble in the suspending liquid and which lowers the average elastic energy of the droplet is a surfactant or else has surfactant-like properties and / or is a form of said lipid or lipid-like material which is comparably as soluble as said surfactant or the surfactant-like material.

The lipid or lipid-like material is a lipid or a lipoid from a biological source or a corresponding synthetic lipid or any of its modifications, the lipid preferably belonging to the class of pure phospholipids corresponding to the general formula where R1 and R2 is an aliphatic chain, typically a C10-20 acyl, or -alkyl or partly unsaturated fatty acid residue, in particular, an oleoyl-, palmitoeloyl-, elaidoyl-, linoleyl-, linolenyl-, linolenoyl-, arachidoyl-, vaccinyl-, lauroyl-, myristoyl-, palmitoyl-, or stearoyl chain; and where R3 is hydrogen, 2-trimethylamino-1-ethy 2-amino-1-ethyl, C 1-4-alkyl, C 1 -5-alkyl substituted with carboxy, C2-5-alkyl substituted with hydroxy, C2-5 -alkyl substituted with carboxy and hydroxy, or C2-5 alkyl substituted with carboxy and amino, inositol, sphingosine, or salts of said substances, said lipid comprising also glycerides, isoprenoid lipids, steroids, sterines or sterols, of sulphur- or carbohydrate-containing lipids, or any

other bilayer-forming lipids, in particular half-protonated fluid fatty acids, said lipid is selected from the group comprising phosphatidylcholines, phosphatidylethanolamines, phosphatidylglycerols, phosphatidylinositols, phosphatidic acids, phosphatidylserines, sphingomyelins or other sphingophospholipids, glycosphingolipids (including cerebrosides, ceramidepolyhexosides, sulphatides, sphingoplasmalogens), gangliosides and other glycolipids or synthetic lipids, in particular with corresponding sphingosine derivatives, or any other glycolipids, whereby two similar or different chains can be ester-groups-linked to the backbone (as in diacyl and dialkenoyl compound) ol be attached to the backbone with ether bonds, as in dialkyl-lipids. The surfactant or surfactant-like material is a nonionic, a zwitterionic, an anionic or a cationic surfactant, especially a fatty-acid or -alcohol, an alkyl-trildilmethyl-ammonium salt, an alkylsulphate salt, a monovalent salt of cholate, deoxycholate, glycocholate, glycodeoxycholate, taurodeoxycholate, taurocholate, etc., an acyl- or alkanoyl-dimethyl-aminoxide, esp. a dodecyl- dimethyl-aminoxide, an alkyl- or alkanoyl-N-methylglucamide, N- alkyl-NN- dimethylglycine, 3-(acyldimethylammonio)-alkanesulphonate, N-acyl- sulphobetaine, a polyethylene-glycol-octylphenyl ether, esp. a nonaethylene-glycol-octylphenyl ether, a polyethylene-acyl ether, esp. a nonaethylen-dodecyl ether, a polyethylene-glycol-isoacyl ether, esp. a octaethylene-glycol-isotridecyl ether, polyethylene-acyl ether, esp. octaethylenedodecyl ether, polyethylene- glycol-sorbitane-acyl ester, such as polyethylengiykol-20-monolaurate (Tween 20) or polyethylenglykol-20-sorbitan-monooleate (Tween 80), a polyhydroxyethylene- acyl ether, esp. polyhydroxyethylene- lauryl, -myristoyl, -cetylstearyl, or -oleoyl ether, as in polyhydroxyethylene-4 or 6 or 8 or 10 or 12, etc., -lauryl ether (as in Brij series), or in the corresponding ester, e.g. of polyhydroxyethylen-8-stearate (Myd 45), -laurate or -oleate type, or in polyethoxylated castor oil 40, a sorbitane- monoalkylate (e.g. in Arlacel or Span), esp. sorbitane-monolaurate, an acyl- or alkanoyl-N-methylgiucamide, esp. in or decanoyl- or dodecanoyl-N- methyIglucamide, an alkyl-sulphate (salt), e.g. in lauryl- or oleoyl-sulphate, sodium deoxycholate, sodium glycodeoxycholate, sodium oleate, sodium taurate, a fatty acid salt, such as sodium elaidate, sodium linoleate, sodium laurate, a lysophospholipid, such as n-octadecylene(=oleoyl)-glycerophosphatidic acid, - phosphorylglycerol, or -phosphorylserine, n-acyl-, e.g. lauryl or oleoyl-glycero- phosphatidic acid, -phosphorylglycorol, or -phosphorylserine, n-tetradecyl-glycero-phosphatidic acid, -phosphorylglycerol, or - phosphorylserine, a corresponding palmitoeloyP, elaidoyl-, vaccenyl-lysophospholipid or a corresponding short-chain phospholipid, or else a surface-active polypeptide.

The average diameter of the penetrant is preferably 30 to 500 nm, especially 60 to 150 nm and the total dry weight of the droplets is preferably 0.01 to 40%, especially 0.5 to 20%, of the formulation. The total dry weight of droplets in a formulation is selected to increase the formulation viscosity to maximally 200 mPas, especially up to 8 mPas. At least one amphiphilic substance and/or at least one edgeactive substance or surfactant, and/or at least one hydrophilic fluid and the agent are mixed, if required separately, to form a solution, the reulsting mixtures or solutions are then combined sbsequently to induce, preferably by action of mechanical energy such as shaking, stirring, vibrations, homogenisation, ultrasonication, shearing, freezing and thawing, or filtration using convenient driving pressure, the formation of penetrants that associate with and/or incorporate the agent. The amphilic substances are dissolved in volatile solvents, such as alcohols, especially ethanol, or in other pharmaceutically acceptable organic solvents, such as ethanol, 1- and 2-propanol, benzyl alcohol, propylene glycol, polyethylene glycol

or glycerol, other pharmaceutically acceptable organic solvents, such as undercooled gas, especially supercritical carbon dioxide, which are then removed, especially by evaporation or dilution, prior to making the final preparation. The formation of the penetrants may be induced by the addition of required substances into a fluid phase, evaporation from a reverse phase, by injection or dialysis, if necessary under the influence of mechnical stress, such as shaking, stirring, in especially high velocity stirring, vibrating, homogenising, ultrasonication, shearing, freezing and thawing, or filtration using convenient, in especially low (1 MPa) or intermediate (up to 10 MPa), driving pressure. The formation of the penetrants may be induced by filtration, the filtering material having prores sizeds between 0.01microm and 0.8 microm, especially between 0.05 microm and 0.15 microm, where several filters may be used sequentially or in parallel. The agents and penetrants are made to associate, at least partly after the formation of the penetrants; e.g. after injecting a solution of the drug in a pharmaceutically acceptable fluid, such as ethanol, 1- and 2-propanol, benzyl alcohol, propylene glycol, polyethylene glycol or glycerol into the suspending medium and simultaneously with penetrant formation, if required using the drug co-solution and at least some, penetrant ingredients. The penetrants, with which the agent is associated, are prepared immediately before the application of the formulation, if convenient, from a suitable concentrate or a lyophylisate.
Preferred Kit: The kit comprises a device for administering a formulation contained in a bottle or any other packaging vessel.
Preferred Patch: The patch comprises a non-occlusive backing liner and an inner liner, where the backing liner and the inner liner define a reservoir and/or a matrix layer. The non-occlusive backing liner exhibits a mean vapor transmission rate (MVTR) of more than 1000 g/m squared day, preferably of more than 10.000 g/M squared day and has pores of smaller than 100 mn, preferably of smaller than 30 nm. The non-occlusive backing liner comprises a polyurethane membrane, preferably a polyester track-etched porous membrane, more preferably a polycarbonate track-etched porous membrane and most preferably a polyethylene microporous membrane. The inner liner prevents unwanted release of the formulation from the patch during storage and enables rapid skin wetting when contacted with the skin. the inner liner comprises a homogeneous membrane, preferably a polyester track-etched porous membrane or a polycarbonate track- etched. The membranes have a pore density of up to 5%, most preferably of more than 25% and/or a pore size in the range between 20 run and 200 nm, most preferably between 80 nm and 120 nm. The inner liner comprises a hydrophobic mesh-membrane and/or a nonwoven fleece with mesh openings formed by hydrophobic threads. The inner liner comprises a microporous polyethylene membrane having average pore sizes in the range of between 50 nm to 3000 nm, especially of about 1500 nm.
The patch comprises a pressure sensitive adhesive layer, preferably an adhesive layer comprising polyacylate, polyisobutylene, silicone, ethylene vinyl acetate copolymer, polyvinylpyrrolidone or polyethylene oxide hydrogel. The formulation viscosity is up to maximally 200 mPas, especially up to 8 mPas. The patch comprises one or more additional layers comprising desiccant containing layers, matrix layers, foam tape layers and/or protective layers. The patch comprises at least two compartments, which are separated from each other during storage. At least one of the compartments is inside and/or outside the patch. The formulation and/or the individual formulation components and/or the agent and/or the suspension/dispersion of penetrants without the agent are kept during the storage in several, preferably less than 5, especially in 2 separate compartments of the patch which, in case, are combined prior to or during or after the application of the patch. The outer compartment(s) comprise(s) injection systems, which are connected to the reservoir. The compartments are inside the reservoir, which is defined by the backing

liner and the inner liner. The compartments are vertically stacked and /or are arranged side-by-side and / or one compartment is included in a second compartment, preferably without being fixed to the second compartment. The compartments are separated from each other by a controllably openable barrier, preferably a membrane and/or by a plug and/or by a compartment-forming lamination. Combining and mixing of the ingredients of the compartments is achieved by direct mechanical action, such as pressing, rubbing, kneading, twisting, tearing and /or indirectly by changing the temperature, osmotic pressure or electrical potential.

L22 ANSWER 9 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-075671 [07] WPIDS
DNC C2000-022183
TI New method for preparation of cellulose **acylate** solution without using chlorine containing organic solvent - and film which is useful for silver halide photographic film base and liquid crystal picture image display etc..
DC A11 A89 G06 L03 U14
PA (KONS) KONICA CORP
CYC 1
PI JP 11322947 A 19991126 (200007)* 17p
ADT JP 11322947 A JP 1998-132000 19980514
PRAI JP 1998-132000 19980514
AB JP 11322947 A UPAB: 20000209
NOVELTY - A method for preparing **cellulose acylate** soln. comprises treating a mixture containing **cellulose acylate** having OH of which is substituted by acyl having at least 3 C and mixed solvent of mainly not chlorinated organic solvent at a pressure of 10 - 5,000 kgf/cm2 and another treating its mixture at 0.1 - 10 kgf/cm2. DETAILED DESCRIPTION - The solvent to be used is at least one of **esters**, ketones and ethers having 3 -12 C, and preferably contains at least 50 wt.% methyl acetate or acetone and optionally contains 1- 6 C alcohol.
USE - The film is useful for silver halide photographic film base and liquid crystal picture image display etc. and improved in transparency and mechanical strength.
ADVANTAGE - The method is conducted without using any chlorinated organic solvent such as **methylene chloride** concerns of environmental problems.
Dwg.0/0

L22 ANSWER 10 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1999-010698 [02] WPIDS
DNC C1999-003728
TI Composition for treatment of surfaces contacting with foodstuffs to prevent adhesion of dirt and dust - contains water, hygroscopic component, preservative and thickening agent.
DC A97 E19 G04 P43
IN LUDECKE, W; TYBORSKI, T; LUEDECKE, W
PA (HENK) HENKEL ECOLAB GMBH & CO OHG; (LUED-I) LUEDECKE W; (TYBO-I) TYBORSKI T
CYC 28
PI DE 19721590 A1 19981126 (199902)* DE 7p
WO 9853021 A1 19981126 (199902) DE
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU BR CA CN JP MX NZ US
AU 9879126 A 19981211 (199917)
ZA 9804376 A 20000126 (200011) 13p
EP 983326 A1 20000308 (200017) DE
R: AT BE CH DE DK ES FI FR GB GR IE IT LI NL PT SE

BR 9809674 A 20000711 (200041)
CN 1256706 A 20000614 (200048)
AU 725810 B 20001019 (200057)
NZ 501216 A 20010427 (200128)
MX 9910520 A1 20000501 (200129)
JP 2001526721 W 20011218 (200203) 14p
US 2002136826 A1 20020926 (200265)

ADT DE 19721590 A1 DE 1997-19721590 19970523; WO 9853021 A1 WO 1998-EP2849 19980514; AU 9879126 A AU 1998-79126 19980514; ZA 9804376 A ZA 1998-4376 19980522; EP 983326 A1 EP 1998-929314 19980514, WO 1998-EP2849 19980514; BR 9809674 A BR 1998-9674 19980514, WO 1998-EP2849 19980514; CN 1256706 A CN 1998-805224 19980514; AU 725810 B AU 1998-79126 19980514; NZ 501216 A NZ 1998-501216 19980514, WO 1998-EP2849 19980514; MX 9910520 A1 MX 1999-10520 19991116; JP 2001526721 W JP 1998-549914 19980514, WO 1998-EP2849 19980514; US 2002136826 A1 WO 1998-EP2849 19980514, US 1999-424401 19991123

FDT AU 9879126 A Based on WO 9853021; EP 983326 A1 Based on WO 9853021; BR 9809674 A Based on WO 9853021; AU 725810 B Previous Publ. AU 9879126, Based on WO 9853021; NZ 501216 A Based on WO 9853021; JP 2001526721 W Based on WO 9853021

PRAI DE 1997-19721590 19970523

AB DE 19721590 A UPAB: 19990113

A surface treatment composition (I) contains 90-98.5 wt.% water, 1-4 wt. % of a hygroscopic component, 0.2-2 wt.% preservative and thickening agent such that the viscosity is 2,000-10,000 mPa.s (at 22 deg. C, as measured by a Brookfield viscometer, No. 3 spindle, 12 rpm).

Preferably (I) contains 0.3-2 wt.% thickening agent. The hygroscopic component is glycerine, aluminium oxide, sodium carbonate, potassium carbonate, calcium carbonate, magnesium carbonate, calcium chloride, potassium chloride, colloidal silicic acid, sodium silicate, calcium silicate, aluminium silicate or propylene glycol. The preservative is sorbic acid, benzoic acid, citric acid or formic acid including salts thereof, para-hydroxy benzoic acid-ethyl ester and sodium salt thereof parahydroxybenzoic acid - propyl ester and sodium salt thereof and parahydroxybenzoic acid methyl ester and sodium salt thereof. The thickening agent is a mono- or diglycederide of an edible fat, starch (**oxidatively** degraded), agar, sodium alginate, potassium alginate or calcium alginate, carrageen, tragacanth, xanthan, **cellulose**, methyl **cellulose**, hydroxypropylcellulose, hydroxypropylmethyl **cellulose**, carboxyethyl **cellulose**, pectin, propylene glycol alginate, **acylated** distarch phosphate, etc.

USE - The composition (I) is useful for the treatment of surfaces that come into contact with foodstuffs (claimed).

ADVANTAGE - The composition (I) is non-drying and prevents the adhesion of dust and dirt to metallic, glass, ceramic and plastic substrates.

Dwg.0/0

L22 ANSWER 11 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1997-261303 [24] WPIDS
DNC C1997-084615
TI High yield **acylated** di amino-tri pheno-dioxazine cpds. prepn. - by reducing di amino-tri pheno-dioxazine chromophore to leuco cpd., **acylation** and re-**oxidn**., for dyeing and printing **cellulose**, or polyamide.
DC A60 E23 F06
IN HERD, K; SCHUMACHER, C
PA (DYST-N) DYSTAR TEXTILFARBEN GMBH & CO DEUT AG; (DYST-N) DYSTAR TEXTILFARBEN GMBH & CO DEUT KG; (DYST-N) DYSTAR TEXTILFARBEN GMBH
CYC 10

PI EP 773264 A1 19970514 (199724)* DE 51p
R: CH DE FR GB IT LI NL
DE 19541985 A1 19970515 (199725) 43p
JP 09169920 A 19970630 (199736) 46p
US 5696258 A 19971209 (199804) 30p
KR 98034849 A 19980805 (199933)#
US 5944854 A 19990831 (199942)
EP 773264 B1 20011010 (200167) . DE
R: CH DE FR GB IT LI NL
DE 59607872 G 20011115 (200176)

ADT EP 773264 A1 EP 1996-117605 19961104; DE 19541985 A1 DE 1995-19541985 19951110; JP 09169920 A JP 1996-296753 19961108; US 5696258 A US 1996-744422 19961108; KR 98034849 A KR 1996-53035 19961109; US 5944854 A Div ex US 1996-744422 19961108, US 1997-893924 19970715; EP 773264 B1 EP 1996-117605 19961104; DE 59607872 G DE 1996-507872 19961104, EP 1996-117605 19961104

FDT US 5944854 A Div ex US 5696258; DE 59607872 G Based on EP 773264

PRAI DE 1995-19541985 19951110; KR 1996-53035 19961109

AB EP 773264 A UPAB: 19970612

A method of preparing acylated 3,10-diamino-tri-pheno-dioxazine of formula (I) comprises:

(i) reducing a diamino-tri-pheno-dioxazine of formula (V) to a leuco compound of formula (III);

(ii) reacting (IV) with a reactive derivative based on the Z1 and/or Z2 group; and

(iii) re-oxidising the resultant leuco compound of formula (IV) to (I).

R1, R2 = H or 1-4 C alkyl, which may be mono- or di-substituted by hydroxy, 1-4 C alkoxy, sulpho or sulphato;

X1, X2 = halogen, H, 1-6 C alkyl, phenyl, phenoxy or 1-4 C alkoxy;

E = sulpho, carboxy, 1-4 C alkylsulphonyl, SO2Y, -SO2NR3R4 or -CONR3R4;

Y = vinyl or CH2CH2V;

V = OH or a labile (thio)sulphato, phosphato or halogen group;

R3, R4 = H, phenyl or 1-4 C alkyl, which may be substituted by OH, carboxy, sulpho or sulphato or SO2Y; or NR3R4 is a 5- or 6-membered heterocycle, optionally with 1-3 more heteroatoms of N, O and S in the ring;

V1, V2 = H, sulpho, methoxy, methyl or halogen; and

Z1, Z2 = acyl, unsubstituted, alkylated or arylated aminocarbonyl, sulphonyl or N-heteroaryl.

T = H, Z1 or Z2.

Also claimed are:

(i) acylated 3,10-diamino-tri-pheno-dioxazine-disulphonic acids and salts (IA-IF) of formula (I) with specified substituents; and

(ii) intermediate leuco compounds (III) and (IV) formed in the preparation of (I).

USE - (IA-IF) are used as direct or reactive dyes for dyeing or printing fibrous cellulose, polyamide and/or protein materials, preferably in the presence of 0-20 g electrolyte salt/l dye solution (all claimed). In general, (I) are useful as direct or reactive dyes for cellulose, e.g. cotton, viscose or chemically modified cellulose, and as acid or reactive dyes for polyamides, e.g. polyamide-6 or -6,6, or proteins, e.g. wool or silk, and mixtures, e.g. cotton/polyester or cotton/polyamide. They are suitable for exhaustion or pad, e.g. pad-short dwell or pad-steam application.

ADVANTAGE - The new method of preparation gives better yields and product quality than usual. (I; Z1 and/or Z2 = a reactive group of the pyrimidine series) give deep colours and have good fastness to washing. Dyeing requires little or no salt, which has ecological advantages.

(IA-IF) mainly have a violet to reddish-blue nuance.
Dwg.0/0

L22 ANSWER 12 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1996-487384 [49] WPIDS
DNC C1996-152746
TI Hot melt adhesive compsn. for polymer compatibility for bookbinding - contg. biodegradable thermoplastic cellulose or starch ester polymer, plasticiser, wax, antioxidant and sucrose benzoate tackifier.
DC A11 A23 A81 E13 E19 G03
IN PAUL, C W; SHARAK, M L
PA (NATT) NAT STARCH & CHEM INVESTMENT HOLDING COR
CYC 9
PI EP 741177 A2 19961106 (199649)* EN 11p
R: BE DE FR GB IT LU NL SE
US 5574076 A 19961112 (199651) 6p
EP 741177 A3 19970319 (199722)
EP 741177 B1 19990303 (199913) EN
R: BE DE FR GB IT LU NL SE
DE 69601590 E 19990408 (199920)
ADT EP 741177 A2 EP 1996-105289 19960402; US 5574076 A US 1995-433285 19950503; EP 741177 A3 EP 1996-105289 19960402; EP 741177 B1 EP 1996-105289 19960402; DE 69601590 E DE 1996-601590 19960402, EP 1996-105289 19960402
FDT DE 69601590 E Based on EP 741177
PRAI US 1995-433285 19950503
AB EP 741177 A UPAB: 19961205
A hot melt adhesive compsn. comprises:
(a) 10-90 wt.% of a biodegradable thermoplastic adhesive polymer of hydroxybutyrate/valerate, polylactide homo- or copolymers, hydroxypropyl cellulose, cellulose or starch esters with a deg. of substitution less than 2.5, hydroxy functional or aliphatic polyesters;
(b) 5-80 wt.% sucrose benzoate;
(c) 0-80 wt.% of a plasticising diluent of phthalate, liq., benzoate or phosphate plasticisers, PEG or derivs.; liq. rosin derivs. having Ring and Ball m.pt. below 60 deg. C, vegetable or animal oils;
(d) 0-50 wt.% of waxes of N-(2-hydroxy-ethyl)-12-hydroxy stearamide, hydrogenated castor oil, oxidised synthetic waxes, polyethylene oxide with a Mw over 1000, or functionalised synthetic waxes; and
(e) 0-3 wt.% antioxidant.
USE - Used e.g. for bookbinding, bag ending, case or carton sealing; or for disposable diapers, or sanitary prods.
ADVANTAGE - The tackifier used in the hot melt adhesive is biodegradable and compatible with the usual adhesive polymer bases.
Dwg.0/0

L22 ANSWER 13 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1996-333948 [33] WPIDS
DNC C1996-105494
TI Prepn. of **cellulose ester**(s) having degree of substitution of 0.1-3.0 - by contacting **cellulose** material, carboxamide or urea-based diluent, **acylating** reactant and insoluble sulphonic acid resin catalyst.
DC A11 A97 F01 G02 J04
IN EDGAR, K J
PA (EACH) EASTMAN CHEM CO
CYC 20
PI WO 9620961 A1 19960711 (199633)* EN 45p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: CA JP MX

EP 800538 A1 19971015 (199746) EN
R: DE FR GB NL SE
MX 9704973 A1 19971001 (199901)
JP 10511729 W 19981110 (199904) 31p
US 6160111 A 20001212 (200067)
EP 800538 B1 20010509 (200128) EN
R: DE FR GB NL SE
DE 69520891 E 20010613 (200141)

ADT WO 9620961 A1 WO 1995-US16563 19951215; EP 800538 A1 EP 1995-943895 19951215, WO 1995-US16563 19951215; MX 9704973 A1 MX 1997-4973 19970627; JP 10511729 W WO 1995-US16563 19951215, JP 1996-521056 19951215; US 6160111 A Cont of US 1994-367524 19941230, US 1996-758977 19961202; EP 800538 B1 EP 1995-943895 19951215, WO 1995-US16563 19951215; DE 69520891 E DE 1995-620891 19951215, EP 1995-943895 19951215, WO 1995-US16563 19951215

FDT EP 800538 A1 Based on WO 9620961; JP 10511729 W Based on WO 9620961; EP 800538 B1 Based on WO 9620961; DE 69520891 E Based on EP 800538, Based on WO 9620961

PRAI US 1994-367524 19941230; US 1996-758977 19961202

AB WO 9620961 A UPAB: 19960823
Preparing **cellulose esters** having a total degree of substitution or average number of acyl substits. per anhydroglucose being (DS/AGU) of 0.1-3.0 comprises contacting; (i) a **cellulose** material; (ii) a solubilising amt. of a solvent system comprising ether a carboxamide diluent, having a carboxamide portion of structure (I); R4R5NCOCR6R7R8 where R4-R8 = H, 1-20C opt. branched alkyl, phenyl, naphthyl, 1-20C opt. branched alkenyl; or a urea-based diluent having a urea portion of structure (II); R9R10NCONR11R12 where R9-R12 = H, 1-20C opt. branched alkenyl; (iii) an **acylating** reagent selected from: (a) an acid chloride and opt. an acid acceptor; (b) a carboxylic **acid anhydride**; (c) diketene, ketone, 2,2,6-trimethyl-2H-1,3-dioxin-4-one, and an **ester** of acetoacetic acid; (d) an **ester** of carboxylic acid; and combinations thereof and (iv) an insoluble sulphonic acid resin catalyst; wherein (i) and (ii) are contacted first and (iii) and (iv) are contacted with the prod. of (i) and (ii) in any order. Also claimed is a prod. prepd. as above.
USE - This process enables the economical, direct synthesis of **cellulose esters** for plastics, film, fibre and coatings applications.
ADVANTAGE - In this process it is possible to use **cellulose** with a lower alpha content and a lower molecular wt.. The process enables synthesis of very high molecular wt. **cellulose esters**, partially or fully substd. **esters** of **cellulose** having a total D.S. of < 3.0 with long chain (> 4C) carboxylic acids and opt. short chain acids. Partially substd. **cellulose esters**, having good solubility in a wide range of organic solvents and opt. with high molecular wt. are obtd. directly from the reaction mixt. by standard isolation techniques.
Dwg.0/0

L22 ANSWER 14 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1996-333947 [33] WPIDS
DNC C1996-105493
TI Prepn of **cellulose ester**(s) having degree of substitution of 0.1-3.0 - by contacting **cellulose** material, carboxamide or urea-based diluent, **acylating** reactant and titanium-contg. cpd..
DC A11 E19 F01 G02
IN BOGAN, R T; EDGAR, K J
PA (EACH) EASTMAN CHEM CO
CYC 20

PI WO 9620960 A1 19960711 (199633)* EN 54p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: CA JP MX
EP 800537 A1 19971015 (199746) EN
R: DE FR GB NL SE
US 5750677 A 19980512 (199826)
MX 9704972 A1 19971001 (199901)
JP 10511728 W 19981110 (199904) 39p
US 5929229 A 19990727 (199936)
EP 800537 B1 20020502 (200230) EN
R: DE FR GB NL SE
MX 202894 B 20010704 (200238)
DE 69526594 E 20020606 (200245)

ADT WO 9620960 A1 WO 1995-US16562 19951215; EP 800537 A1 EP 1995-943477 19951215, WO 1995-US16562 19951215; US 5750677 A US 1994-367025 19941230; MX 9704972 A1 MX 1997-4972 19970627; JP 10511728 W WO 1995-US16562 19951215, JP 1996-521055 19951215; US 5929229 A Div ex US 1994-367025 19941230, US 1998-36646 19980306; EP 800537 B1 EP 1995-943477 19951215, WO 1995-US16562 19951215; MX 202894 B MX 1997-4972 19970627; DE 69526594 E DE 1995-626594 19951215, EP 1995-943477 19951215, WO 1995-US16562 19951215

FDT EP 800537 A1 Based on WO 9620960; JP 10511728 W Based on WO 9620960; US 5929229 A Div ex US 5750677; EP 800537 B1 Based on WO 9620960; DE 69526594 E Based on EP 800537, Based on WO 9620960

PRAI US 1994-367025 19941230; US 1998-36646 19980306

AB WO 9620960 A UPAB: 19960823
Preparing **cellulose esters** having a total degree of substitution or average number of acyl substits. per anhydroglucose ring (DS/AGU) of 0.1-3.0 comprises contacting: (i) a **cellulose** material; (ii) a solubilising amt. of a solvent system comprising either a carboxamide diluent, having a carboxamide portion of structure (I); R4R5NCOCR6R7R8 where R4-R8 = H, 1-20C opt. branched alkyl, phenyl, naphthyl, 1-20C opt. (branched) alkenyl; or a urea-based diluent having a urea portion of structure (II); R9R10NCONR11R12 where R9-R12 = H, 1-20C opt. branched alkyl, phenyl naphthyl, 1-20C opt. (branched) alkenyl; (iii) an **acylating** reagent selected from: (a) an acid chloride and opt. an acid acceptor; (b) a carboxylic **acid anhydride** ; (c) diketene, ketene, 2,2,6-trimethyl-4H-1,3-dioxin-4-one, and an **ester** of acetoacetic acid; (d) an **ester** of carboxylic acid; and their combinations; and (iv) a Ti-contg. cpd.; where (i) and (ii) are contacted first and (iii) and (iv) are contact ed with the prod. of (i) and (ii) in any order. Also claimed is a prod. prepd. as above.
USE - This process enables the economical, direct synthesis of **cellulose esters** for plastics, film, fibre and coatings applications.
ADVANTAGE - In this process it is possible to use **cellulose** with a lower alpha content and a lower molecular wt. The process enables synthesis of very high molecular wt. **cellulose esters**, partially or fully substd. **esters** of **cellulose** having a total D.S. of less than 3.0 with long chain (greater than 4C) carboxylic acids and opt. short chain acids. Partially substd. **cellulose esters**, having good solubility in a wide range of organic solvents and opt. with high molecular wt. are obtd. directly from the reaction mixt. by standard isolation techniques.
Dwg.0/0

L22 ANSWER 15 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1994-206275 [25] WPIDS
DNC C1994-094364
TI Coated granular fertiliser allowing complete elution of fertiliser - comprises fertiliser granule coated with film comprising compsn.

comprising ethylenically unsatd. auto-oxidisable cpd. and biodegradable powders contg. saccharide in resin.
DC A97 C04
PA (CHCC) CHISSO CORP
CYC 1
PI JP 06144981 A 19940524 (199425)* 9p
JP 3309325 B2 20020729 (200256) 9p
ADT JP 06144981 A JP 1992-316385 19921030; JP 3309325 B2 JP 1992-316385 19921030
FDT JP 3309325 B2 Previous Publ. JP 06144981
PRAI JP 1992-316385 19921030
AB JP 06144981 A UPAB: 19940810
Fertiliser granule is coated with a film comprising a compsn. comprising at least 1 auto-oxidisable cpd. having at least one ethylenically unsatd. double bond in one molecule, and at least one biodegradable powders contg. a saccharide polymer or its deriv. dispersed in a resin.

The auto-**oxidisable** cpd. is pref. selected from fatty acids, fatty **esters**, oils and fats. The **biodegradable** powder contg. a saccharide polymer and its deriv. is pref. selected from starch, its deriv. grain powder, **cellulose**, agar powder, alginic acid and its deriv.. The amt. of auto-**oxidisable** cpd. is pref. 0.5-10 wt.%. The amt. of the **biodegradable** powder contg. the saccharide polymer and its deriv. dispersed in the compsn. is pref. 0.5-20 wt%.

The resin contains at least 1 of olefin polymer, olefin copolymer, vinylidene chloride polymer or vinylidene chloride copolymer. The olefin polymer, olefin copolymer or vinylidene chloride copolymer is pref. selected from a polymer made of at least 1 of ethylene, propylene and butene, ethylene-CO copolymer, ethylene-vinyl ketone copolymer, vinylidene chloride-vinyl chloride copolymer or vinylidene chloride-acrylate copolymer. The resin pref. contains a powder filler e.g. talc, CaCO3, silica, zeolite, diatomaceous earth, clay, or metal oxide powder.

USE/ADVANTAGE - Coated granule fertiliser has a biodegradable and auto-oxidising and decomposing coat which allows complete elution of the fertiliser component.
Dwg.0/6

L22 ANSWER 16 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1994-026000 [03] WPIDS
DNN N1994-020255 DNC C1994-011993
TI Biodegradable, liq. impervious multilayer films - comprises composite structures of biodegradable thermoplastic polymers, suitable as back sheets in disposable absorbent prods..
DC A96 D22 F07 P34 P73
IN KOGER, T J; WNUK, A J; YOUNG, T A; YOUNG, A T; WUNUK, A J
PA (PROC) PROCTER & GAMBLE CO
CYC 48
PI WO 9400293 A1 19940106 (199403)* EN 50p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
W: AU BB BG BR BY CA CZ FI HU JP KP KR KZ LK MG MN MW NL NO NZ RO RU SD SK UA VN
AU 9345339 A 19940124 (199420)
FI 9406071 A 19941223 (199512)
US 5391423 A 19950221 (199513) 17p
NO 9404985 A 19950224 (199517)
EP 647184 A1 19950412 (199519) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE
CN 1085493 A 19940420 (199527)
JP 08500062 W 19960109 (199642) 62p
NO 300579 B1 19970623 (199732)

AU 681589 B 19970904 (199744)
EP 647184 B1 19980311 (199814) EN 22p
R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE
DE 69317423 E 19980416 (199821)
ES 2113542 T3 19980501 (199824)
MX 185605 B 19970813 (199847)
BR 9306621 A 19981208 (199903)
SG 65587 A1 19990622 (199935)
PH 30066 A 19961108 (199953)#
CA 2138120 C 20000718 (200045) EN
KR 262356 B1 20000901 (200134)
JP 3242658 B2 20011225 (200203) 22p

ADT WO 9400293 A1 WO 1993-US5617 19930614; AU 9345339 A AU 1993-45339 19930614; FI 9406071 A WO 1993-US5617 19930614, FI 1994-6071 19941223; US 5391423 A Cont of US 1992-905057 19920626, US 1993-126672 19930924; NO 9404985 A WO 1993-US5617 19930614, NO 1994-4985 19941222; EP 647184 A1 EP 1993-915312 19930614, WO 1993-US5617 19930614; CN 1085493 A CN 1993-109567 19930626; JP 08500062 W WO 1993-US5617 19930614, JP 1994-502403 19930614; NO 300579 B1 WO 1993-US5617 19930614, NO 1994-4985 19941222; AU 681589 B AU 1993-45339 19930614; EP 647184 B1 EP 1993-915312 19930614, WO 1993-US5617 19930614; DE 69317423 E DE 1993-617423 19930614, EP 1993-915312 19930614, WO 1993-US5617 19930614; ES 2113542 T3 EP 1993-915312 19930614; MX 185605 B MX 1993-3853 19930625; BR 9306621 A BR 1993-6621 19930614, WO 1993-US5617 19930614; SG 65587 A1 SG 1996-7960 19930614; PH 30066 A PH 1993-46398 19931008; CA 2138120 C CA 1993-2138120 19930614, WO 1993-US5617 19930614; KR 262356 B1 WO 1993-US5617 19930614, KR 1994-704725 19941224; JP 3242658 B2 WO 1993-US5617 19930614, JP 1994-502403 19930614

FDT AU 9345339 A Based on WO 9400293; EP 647184 A1 Based on WO 9400293; JP 08500062 W Based on WO 9400293; NO 300579 B1 Previous Publ. NO 9404985; AU 681589 B Previous Publ. AU 9345339, Based on WO 9400293; EP 647184 B1 Based on WO 9400293; DE 69317423 E Based on EP 647184, Based on WO 9400293; ES 2113542 T3 Based on EP 647184; BR 9306621 A Based on WO 9400293; CA 2138120 C Based on WO 9400293; JP 3242658 B2 Previous Publ. JP 08500062, Based on WO 9400293

PRAI US 1992-905057 19920626; US 1993-126672 19930924; PH 1993-46398 19931008

AB WO 9400293 A UPAB: 19940303

Multilayer film comprises a first polymer film layer and a second polymer film layer joined to the first layer. The multilayer film has following characteristics: (a) biodegradability; (b) liq. impermeability; (c) a machine direction (MD) tensile modulus from 6.895 x 10 power8 dynes/sq.cm. to 0.895 x 10 power9 dynes/sq.cm., (d) on MD tear strength of at least 70g per 25.4 microns of thickness; (e) a cross machine (CD) tear strength of at least 70g per 25.4 microns of thickness; (f) an impact strength of at least 12 cm as measured by falling ball drop; (g) a moisture transport rate less than 0.0012g per sq. cm. per 16 hours; (h) a modulus at 60 deg. C of at least 5.52 x 10 power7 dynes/sq.cm, and (i) a thickness of 12-75 microns.

USE/ADVANTAGE - The films are suitable for use as backsheets in absorbent articles such as diapers, sanitary napkins and pantiliners. The films may also be used in a sealable packaging film, plsatic garbage bags etc.. Absorbent articles according to the invention are compostable to a greater extent than conventional absorbent articles which employ a polyolefin, typically a polyethylene backsheet.

Dwg.0/0

L22 ANSWER 17 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1993-164487 [20] WPIDS
DNC C1993-073150

TI Hydrolysis of polysaccharide under mild conditions - by reacting with poly hydroxy (acid) deriv. of 2-amido-thiazole and opt. phospholipid.
DC D17 E13
PA (ASAE) ASAHI DENKA KOGYO KK; (OKAT-I) OKATSU S
CYC 1
PI JP 05097904 A 19930420 (199320)* 10p
JP 3020306 B2 20000315 (200018) 10p
ADT JP 05097904 A JP 1991-129686 19910531; JP 3020306 B2 JP 1991-129686 19910531
FDT JP 3020306 B2 Previous Publ. JP 05097904
PRAI JP 1991-129686 19910531
AB JP 05097904 A UPAB: 19931113
Polysaccharides, are hydrolysed in the presence of a cpd. of formula (I) (X:) or H2; n = 2-6; R1,R2 = independently 8-30C alkyl gp.; R3=H or 1-8C acyl gp.).
X is pref O and a phospholipid is pref also present.
As the polysaccharides, **cellulose**, amylose, chitin and chitosan and desirable. The cpd. of formula (I) is synthesised from cystine and monosaccharide through **acylation**, amidation, deacylation and **oxidation**.
ADVANTAGE - The method can hydrolyse polysaccharides industrially under mild condition.
Dwg.0/0

L22 ANSWER 18 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1990-280997 [37] WPIDS
DNC C1990-121564
TI Synthesis of **cellulose esters** - using mixt. of tri fluoro-acetic acid and fatty **acid anhydride** as **acylating** mixt., to increase efficiency.
DC A11 E13 E16 F01
IN CHEMERIS, M M; EREMENKO, N V; SALIN, B N
PA (UYAL-R) ALTAI UNIV
CYC 1
PI SU 1525168 A 19891130 (199037)*
ADT SU 1525168 A SU 1987-4206246 19870304
PRAI SU 1987-4206246 19870304
AB SU 1525168 A UPAB: 19930928
Use of a mixt. of trifluoroacetic acid (I) and anhydride of fatty 1-4C acid (II) as the **acylating** mixt. in prodn. of **cellulose** (III) **esters**, increases the efficiency of the process. The **acylation** is carried out at 30-60 deg. with molar ratio (I): (II): (III) = 51-102:17:1, and is followed by pouring the syrupy reaction mixt. into water, filtering, washing and drying.
USE/ADVANTAGE - Simpler process, in prodn. of films., fibres and plastics. Bul.44/30.11.89
0/0

L22 ANSWER 19 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1985-234974 [38] WPIDS
DNC C1985-102181
TI Prepn. of mixed **cellulose ester**(s) soluble in **DMF** - by dissolving starting material in mixt. of **DMF** and di nitrogen tetra oxide, and **acylating** with acetic anhydride.
DC A11 F01 G02
IN EMELYANOV, Y U G; GRINSHPAN, D D; KAPUTSKII, F N
PA (BELU) PHYS CHEM PROBLEMS
CYC 1
PI SU 1142480 A 19850228 (198538)* 3p

ADT SU 1142480 A SU 1985-3654864 19851024
PRAI SU 1983-3654864 19831024; SU 1985-3654864 19851024
AB SU 1142480 A UPAB: 19930925
Mixed **cellulose esters** soluble in **DMF** are obtd. when 1 pt. of **cellulose** is first dissolved in a mixt. contg. 7-15 pts. **DMF**+1.7-2.2 pts. N2O4, and the resulting soln. **acylated** for 2-4 hours at 40-50 deg. with 7-15 pts. of acetic anhydride in the presence of 0.45-0.18 pts. of acetamide. Catalytic amts. of H2SO4 are also added.

Tests show that addn. of acetamide is the necessary condition for producing soluble acetonitrate esters for subsequent forming of fibres, films, membranes, coatings, etc.

ADVANTAGE - Solubility of product in **DMF**. Bul.8/28.2.85
0/0

L22 ANSWER 20 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1984-264153 [43] WPIDS
DNC C1984-111801
TI Level dyeing and softening of polyamide or **cellulose** fibres - using alkanolamine salts of partial **phosphoric acid ester**(s) of alkylene oxide addn. prods. of fatty acid **acylated** poly alkylene poly amine.
DC A23 A35 F06
IN BERGER, W; JUNG, K
PA (BOHT) BOEHME KG TH
CYC 1
PI DE 1619372 A 19710311 (198443)* 9p
ADT DE 1619372 A DE 1967-B903542 19670719
PRAI DE 1967-B903542 19670719
AB DE 1619372 A UPAB: 19930925
Dyeing is carried out in the presence of the alkanolamine salts of partial polyphosphoric acid esters of alkylene oxide addn. prods. of fatty acid **acylated** polyalkylenepolyamines, esp. ethanolamine- and/or propanolamine salts of partial **phosphoric acid** esters of adducts of 10-20 alkylene oxide units with fatty acid **acylated** polyalkylenepolyamines.

The esters are made by (i) converting polyalkylenepolyamines such as diethylenetriamine, triethylenetetramine, etc., into the mono-or diamides with fatty acids or fatty acid mixts., (ii) converting into alkylene oxide adducts by addn of 10-20 ethylene oxide units, (iii) reacting with P4O10 to form the acid ester and (iv) neutralising with alkanolamines.

ADVANTAGE - The partial polyphosphoric acid esters are esp. useful as replacements for natural lecithin in dyeing processes, and in comparison with natural lecithin are light coloured, resistant to normal processing temps., resistant to rotting, and have excellent dye dispersion characteristics. The treated fabrics have a soft handle.
0/0

L22 ANSWER 21 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1983-808287 [45] WPIDS
DNC C1983-107631
TI Mixed **cellulose ester** prepn. - by **acylation** with mono basic alkanoic **acid anhydride** mixt. in acid nitrile in homogeneous or heterogeneous phase.
DC A11
IN NAUNDORF, G
PA (THIN-I) THINIUS K
CYC 1
PI DD 68493 A 19690820 (198345)* 3p
PRAI DD 1969-118994 19690727

AB DD 68493 A UPAB: 19930925
In the parent patent, cellulose is esterified with monobasic alkanoic acids in acid nitriles of these acids as diluents. The reaction can take place in the homogeneous or heterogeneous phase, depending on the combination of the acid nitrile with the anhydride of the esterifying acid.

In this addn., the lower aliphatic acid nitriles, e.g. MeCN or EtCN, can be used in the prepn. of mixed acids or cellulose with AcOH, as one component, and propionic acid and/or butyric acid, as the other component. The course of esterification in the homogeneous or heterogeneous phase in an acid nitrile can be adjusted by the molar ratio of the **acid anhydrides**.

According to a given diagram, **cellulose** acetopropionate is prepd. in the heterogeneous phase on reacting 1.5 mol propionic **acid anhydride** and 7.5 mol Ac2O with 1 mol **cellulose**, in MeCN as diluent. On reversing the molar ratios, the **cellulose** mixed **ester** can only be prepd. in the homogeneous phase. The molar ratio between 7 mol Ac2O and 2 mol (EtCO)2O, on the one hand, and 6 mol Ac2O and 3 mol (EtCO)2O on the other hand, should be avoided as it denotes a transition range from heterogeneous to homogeneous **acylation**, in which the condition of the system impedes handling.
0/1

L22 ANSWER 22 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1983-781705 [40] WPIDS
DNC C1983-096678
TI Prepn. of **cellulose ester** sorbents - by **acylating** powdered **cellulose** with di carboxylic acid chloride, used in chromatography.
DC A11 A89 J04
IN KLYAVINSH, M K; PRIKULIS, A A
PA (UYLA) UNIV LATV
CYC 1
PI SU 979362 A 19821210 (198340)* 4p
PRAI SU 1981-3285044 19810430
AB SU 979362 A UPAB: 19930925
Cellulose esters used as sorbents in sepn. and purificn. of biological materials etc. by chromatography are obtd. by **acylating cellulose** in powder form with a 2-10C dicarboxylic acid chloride in an aprotonic solvent at 20-60 deg.C. for 4-6 hrs. The method is quicker than in prior art.

In a pref. process, 0.1 mols of acid chloride are used per 10 g. of cellulose and the **acylation** is carried out in the presence of 0.05 mols of tertiary base, e.g. pyridine. Suitable solvents are **DMF**, dioxan acetone etc.
0/0

L22 ANSWER 23 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1978-80782A [45] WPIDS
TI Alpha-branched aliphatic carboxylic **acid anhydride** prodn. - by liq. phase oxidising the corresp. aldehyde in presence of copper or copper cpd..
DC A60 E17
PA (MITU) MITSUBISHI CHEM IND LTD
CYC 1
PI JP 53112804 A 19781002 (197845)*
JP 60055493 B 19851205 (198602)
PRAI JP 1977-28322 19770315
AB JP 53112804 A UPAB: 19930901

Prepn. of an alpha-branched aliphatic carboxylic **acid anhydride** comprises liq. phase oxidising on alpha-branched aliphatic aldehyde with molecular oxygen in the presence of copper or a copper compound.

Pref. the reaction is 10 degrees C to 100 (30-80) degrees C 30-80 degrees C. The reaction pressure is atmospheric-10 kg/cm2. pref. slightly elevated. Continuous removal of water from the reaction system raises the yield of the product. Pref. solvents include ethyl acetate, acetone, benzene, etc. which are relatively inert to the oxidn.

Prod. is obtd. in good yield with less by-products. The prod. is useful for prodn. of polymers such as **cellulose ester** or as an **acylating** agent or a a general synthetic intermediate.

L22 ANSWER 24 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1973-77794U [51] WPIDS
TI Reactive copper-contg dyes - for leather and cellulosic fibres.
DC E21 F06
PA (SANO) SANDOZ AG
CYC 1
PI CH 542906 A (197351)*
PRAI CH 1968-17930 19680813
AB CH 542906 A UPAB: 19930831
Reactive dyes for dyeing leather and dyeing or padding natural or regenerated **cellulose** fibres esp by exhaust process have formula (I) (where -NHZ may be linked to A or B; A and B or opt. substd. -SO3H-contg. gps of the benzene or naphthalene series and Z is an acyl gp which contains at least one substituent released as an anion and/or a C-C multiple bond capable of addn., a halopyrimidyl or halotriazinyl gp.). They are prepd. by reacting one mole of an amino dye of formula (II) (where -SO3H is in o-posn to azo gp) with 1 mole **acylating** agent contg. at least 1 substituent releasable as an anion and/or a C-C multiple bond capable of addn., or with a polyhalopyrimidine or polyhalotriazine, and **oxidising** prod in the presence of a Cu-yielding cpd.

L22 ANSWER 25 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1970-94657R [51] WPIDS
TI Disperse disazo dyestuffs.
DC A11 A23 A64 E21 F06
PA (MITS) MITSUBISHI CHEM INDS LTD
CYC 1
PI JP 45040189 B (197051)*
PRAI JP 1968-1582 19680113
AB JP 70040189 B UPAB: 19930831
Novel disperse disazo dyestuffs of formula:- (where A is benzene nucleus opt. contng. a halogen, lower alkyl or lower alkoxy; B is benzene or naphthalene nucleus opt. substd. as in A; D is benzene nucleus opt. contng. a halogen, lower alkyl or gp., -C2H4Y; Y is CN or opt. substd. lower alkoxycarbonyl; R' is lower alkyl, lower oxyalkyl, lower acyl, lower alkoxycarbonyl, lower alkylcarbamoyl, lower acyloxyalkyl or benzoyl), are prepared by reacting a disazo cpd. (where R' = H) with either (1) X-R1 (X is halogen), (2) lower fatty **acid anhydride**, (3) arylsulphonic acid **ester**, (4) alkyl epoxide, (5) acid halide or aliphatic **acid anhydride acylating** agent.
Used to dye polyester or **cellulose ester** fibres a deep orange-yellow colour, which is water and light fast.

L22 ANSWER 26 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1968-12530Q [00] WPIDS
TI Bis v-triazolyl-2-dibenzothiophene-s-dioxides as.
DC A00 A60 E23 F06

PA (FARB) FARBENFAB BAYER AG
CYC 7
PI NL 6803885 A (196800)*
BE 712484 A (196801)
GB 1155229 A (196801)
CH 490562 A (197029)
CA 863958 A (197108)
JP 46008781 B (197110)
CH 481974 A 19691130 (198329)
DE 1670828 A 19710311 (198443)
PRAI DE 1967-F501882 19670320
AB NL 6803885 A UPAB: 19930831
Optical brighteners consist of bis(v-triazolyl-2)-dibenzothiophene-S-dioxides (I). R' = H, opt. substd. alkyl or aryl; R2 = H, CN, opt. substd. alkyl or aryl, COOH, ester, carbonamide, or **acylated** amino; X = H or the equivalent of a cation; and n = 0-4.

(I) are prepd. by (a) coupling diazo cpds. of aminodibenzothiophene-S-dioxides (II) with enamines (III) (where R3 = CN, carboxylic ester or an opt. substd. carbonamide group), (b) converting the disazo cpds. into Cu complexes by reaction with a complex CuII salt soln., (c) **oxidising** the Cu complexes by heating to the corresponding bis-v-triazolyl-2-cpds., (d) opt. hydrolysing the CN, carboxylic ester or carbonamide groups to COOH, and (e) opt. sulphonating with conc. H2SO4.

(I) are useful optical brighteners for natural and synthetic polymers, including fibres, films and mouldings of polyamides, polyesters, PVC, polyacrylonitrile and **cellulose** acetates.

A fabric consisting of poly-Epsilon-caprolactam fibres was treated in an aqs. bath contg. 0.2 g./l. of cpd. (I) (R' = C6H5O3SNa; R2 = H) and 2 g./l. Na chlorite, at a bath ratio of 1:40, for 30 mins. at 80-90 deg.C. After rinsing and drying, the dry fabric was given a brightening effect.